

# **SUBDIVISION REGULATIONS FOR PUTNAM COUNTY, TENNESSEE**

**ADOPTED AS AMENDED 1999; 2002; 2007;  
2008; 2009; 2012; 2015; 2016; 2018; 2022; 2023**

**PREPARED BY THE  
PUTNAM COUNTY REGIONAL PLANNING COMMISSION**

**ASSISTED BY THE  
HIGHLANDS PLANNING DEPARTMENT**

**COOKEVILLE, TENNESSEE**

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## **TEN EASY STEPS TO SUBDIVISION DEVELOPMENT**

**STEP 1** Any person wishing to subdivide their property shall contact the Putnam County Planning Commission's Staff Planner for detailed instruction and assistance.

**STEP 2** The developer shall obtain the services of a surveyor licensed in the State of Tennessee, who will prepare the preliminary plat to show all items listed on page 4 of these Subdivision Regulations.

**STEP 3** After the preparation of the preliminary plat, the owner shall submit to the Staff Planner three (3) copies of the preliminary plat and one (1) copy each to the appropriate utilities (gas, water, sewer, electricity, telephone, CATV, county highway department, Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC), at least ten (10) days prior to the meeting at which it is to be considered.

**STEP 4** Attend the Planning Commission meeting at which the subdivision will be reviewed.

**STEP 5** Upon acceptance of the preliminary plat by the Planning Commission, the developer shall:

- (a) Obtain the services of a registered engineer to prepare the plans for both water and sewer services.
- (b) Obtain the approval of such plans by the appropriate state agency.

**STEP 6** So that inspection can be made, the developer shall notify the Planning Commission Engineer or other duly authorized agent at least two (2) days before the starting of the following steps of construction:

- (a) Street grading, preparation of subgrade, and installation of the drainage system.
- (b) Installation of water mains, water stubs, gas lines, and underground electric lines (where applicable)
- (c) Pavement base
- (d) Final paving and drainage system

Developer shall pay required Inspection Fees as defined in Article III, Section G. (See page 29). Final plat approval cannot be obtained until a receipt for those fees is presented to the Planning Commission.

Upon completion of each inspection, the Planning Commission Engineer will submit his findings in writing to the Secretary or Staff Planner. These inspection reports will become a part of the official records of the Planning Commission.

**STEP 7** After approval of preliminary plat by the Planning Commission and development by the owner, a surveyor licensed in the State of Tennessee shall prepare a final plat which will show all items listed on page 6 of these Subdivision Regulations, plus all restrictive covenants to be included on the individual deeds, and areas subject to special restrictions.

**STEP 8** Again, ten (10) days prior to the meeting of the Planning Commission, the owner shall submit to the Staff Planner the original drawing and three (3) copies of the final plat and one (1) copy to the County Highway Department and Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC.

**STEP 9** Submit with the final plat all certificates listed under Article II, Section C, Item No. 14 of the Putnam County Subdivision Regulations.

**STEP 10** After final acceptance by the Putnam County Planning Commission, register your plat with the Putnam County Register's Office.



# SUBDIVISION REGULATIONS

of

Putnam County Regional Planning Commission (hereafter referred to as the Planning Commission).

## ARTICLE I GENERAL PROVISIONS

### A. Purpose

Land subdivision is the first step in the process of community development. Once land has been cut up into streets, lots, and blocks and publicly recorded, the correction of defects is costly and difficult. Subdivision of land sooner or later becomes a public responsibility, in that roads and streets must be maintained and various public services customary to urban areas must be provided. The welfare of the entire community is thereby affected in many important respects. It is therefore in the interest of the public, the developer and the future owners that subdivisions be conceived, designed and developed in accordance with sound rules and proper minimum standards.

The following subdivision regulations guiding the Planning Commission are designed to provide for the harmonious development of the regional area; to secure a coordinated layout and adequate provision for traffic and also to secure adequate provision for light, air, recreation, transportation, water, fire protection, drainage, sewer, and other sanitary facilities.

### B. Authority

These Subdivision Regulations are adopted under the authority granted by Section 13-3-101 through 13-3-411, **Tennessee Code Annotated**. The Planning Commission has fulfilled the requirements set forth in these statutes as prerequisite to the adoption of such regulations, having filed a certified copy of the Major Street and Road Plan in the office of the Register of Putnam County, Tennessee.

Pursuant to TCA 13-3-403(d)1, the planning commission shall not require an owner of private property to dedicate real property to the public or pay money to a public entity in an amount that is determined on an individual and discretionary basis, unless there is an essential nexus between the dedication or payment and a legitimate local governmental interest (see *Nollan v. California Coastal Commission*) and the dedication or payment is roughly proportional both in nature and extent to the impact of the proposed use or development of the property (see *Dolan v. City of Tigard*). An owner of private property required to make dedication or pay money in violation of this subdivision may seek relief through a common law writ of certiorari in chancery court. [Amended 2023]

### C. Jurisdiction

These Regulations shall govern all subdivision of land within the county boundary, excepting those areas falling under the jurisdiction of the municipalities of Cookeville, Algood, Monterey and Baxter.

Within these regulations the term “subdivision” means the division of a tract or parcel of land into two (2) or more lots, sites, or other divisions requiring new street or utility construction, or any division of less than five (5) acres for the purpose, whether immediate or future, of sale or building development, and includes resubdivision and when appropriate to the context, relates to the process

of resubdividing or to the land or area subdivided. The following are not included within the definition of subdivision:

1. Tracts or divisions of five (5) acres or larger not involving the construction of roads (including easements of access) or utilities, i.e., all tracts front on existing county roads as listed on the Putnam County Official County Road Map.
2. Testamentary division of property.
3. Division and plats of land partitioned by the owners among themselves either in court or by deeds. However, plats filed shall contain information as required and appropriate.

Any owner of land within the Putnam County Planning Region wishing to subdivide land shall submit to the Planning Commission a plat of the subdivision according to the procedures outlined in Article II, which plat shall conform to the minimum requirements set forth in Article III. Improvements shall be installed as required by Article III.

#### D. Definitions

Except as specifically defined herein, all words used in these Regulations have their customary dictionary definitions where not inconsistent with the context. For the purpose of these Regulations, certain words or terms are defined as follows:

The term “shall” is mandatory. When not inconsistent with the context, words used in the singular number include the plural and those used in the plural number include the singular. Words used in the present tense include the future. Notes are not part of the Regulations.

1. Subdivisions: The division of a tract or parcel of land into two or more lots, sites, or other divisions requiring new street or utility construction, or any division of less than five (5) acres for the purpose, whether immediate or future, of sale or building development, and includes resubdivisions and, when appropriate to the context, relates to the land or area subdivided.
2. Plat: The map, drawing, or chart on which the subdivider’s plan of subdivision is presented and which he submits for approval and intends in final form to record; it includes plat, plan, plot and replot and must be prepared and sealed by a land surveyor licensed in the State of Tennessee.
3. Planning Commission: The Putnam County Regional Planning Commission, its Commissioners, officers, and staff.
4. Major Road Plan: The map on which the planned locations of present and future county arterial and collector roads are indicated.
5. Street: A public or private way, provided for the accommodation of vehicular traffic, or as a means of access to property, and includes streets, avenues, permanent vehicular easements, boulevards, roads, lanes, alleys, or other ways.
6. Arterial: Facilities which serve the major movement of traffic within and through the county. The major function of arterials is to move traffic, while a secondary function is land access. Arterial roads can be found on the Major Road Plan and are designated as either Major Arterial or Minor Arterial.
7. Collector: Facilities which serve the internal traffic movement within a section of the county and connect this section with the arterial system. They do not handle long through trips and, of necessity, are not continuous for any great length. Collector roads can be found on the Major Road Plan and are designated as either Major Collector or Minor Collector.
8. Local: A street designated to accommodate local traffic, the major portion of which originates along the street itself. The major function of a local is land access.

9. Lot Width: The distance between side lot lines measured at the building setback line.

E. Amendments

Before adoption of any amendments to this document, a public hearing thereon shall be held by the Planning Commission thirty (30) days notice of the time and place of which shall be given as provided in Section 13-3-403, **Tennessee Code Annotated**.



## ARTICLE II PROCEDURE FOR PLAT APPROVAL

The procedure for review and approval of a subdivision plat consists of three (3) separate steps. The initial step is the early informal consultation with the Planning Commission technical staff for advice and assistance. The second step is the preparation and submission to the Planning Commission of a preliminary plat of the proposed subdivision. The third step is the preparation and submission to the Planning Commission of a final plat together with required certificates. This final plat becomes the instrument to be recorded in the office of the county register of deeds when duly signed by the secretary or designee of the Planning Commission.

### A. General

1. Any owner of land lying within the area of jurisdiction of the Planning Commission who wishes to divide such land into two (2) or more lots, sites, or divisions for the purpose, whether immediate or future, of sale or building development, or who wishes to resubdivide for this purpose, shall submit a plan of such proposed subdivision to the Planning Commission for approval and shall obtain such approval prior to the filing of subdivision plat for record. Any such plat of subdivision shall conform to the minimum standards of design for the subdivision of land as set forth in Article III of these standards and shall be presented in the manner specified in the following sections of this Article. **No plat of a subdivision of land within the area of planning jurisdiction shall be filed or recorded by the county register without the approval of the Planning Commission as specified herein, provided that if the plat of subdivision divides the tract into no more than two (2) lots, the approval may be endorsed in writing on the plat by the Secretary or designee of the Commission without the approval of the Regional Planning Commission, upon certification by the Planning Staff of the Regional Planning Commission that the subdivision complies with such regulations governing a subdivision of land as have been adopted by the Regional Planning Commission pursuant to Section 13-3-403; provided further that no request for variance from such regulations has been requested.**
2. In order to secure review and approval by the Planning Commission of a proposed subdivision, the prospective subdivider shall, prior to the making of any street improvements or installations of utilities, submit to the Planning Commission a preliminary plat as provided in Section B of this Article. On approval of said preliminary plat, he may proceed with the preparation of the final plat and other documents required in connection therewith as specified in Section C of this Article and the improvements set forth in Article III. In no case shall a preliminary plat be presented in stages.
3. A subdivider may omit the submission of a preliminary plat, submitting only a final plat, if all of the following conditions are met:
  - a. The proposed subdivision does not contain more than five (5) lots, sites, or divisions.
  - b. All public improvements as set forth in Article III are already installed. (Any construction, installation, or improvement of public improvements shall require the submission of a preliminary plat as prescribed by Section B of Article II.)
  - c. The subdivider has consulted informally with the Planning Commission Technical Staff for advice and assistance, and it is agreed upon by the Planning Commission that a preliminary plat is unnecessary, prior to submission of the final plat and its formal application for approval.

**B. Preliminary Plat Requirements [Amended 2015]**

1. At least eight (8) calendar days prior to the meeting at which it is to be considered, the subdivider shall submit to the Staff Planner of the Planning Commission one (1) digital copy (as a pdf) and one (1) printed copy of any required preliminary plat of a proposed subdivision and one (1) copy each to the appropriate utilities (gas, water, electricity, sewer, telephone, CATV, etc.), the Planning Commission Engineer, and Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC. This plat is to be drawn to a scale of 100 feet per inch except as authorized in the following paragraph.

No plat shall be submitted to or approved by the Planning Commission unless it is submitted by the owner of the property to be subdivided by the plat, or a governmental entity. The word “owner”, for purposes of this section, means the legal or beneficial owner or owners of all the land proposed to be included in the proposed subdivision or the holder of a written option or contract to purchase the land, or the attorney or authorized representative of any of the aforementioned.

In the case of an exceptionally large subdivision, the Planning Commission may waive the requirement of one (1) inch equals one-hundred (100) feet and permit a scale as deemed necessary and appropriate.

2. The preliminary plat shall be presented to the Planning Commission at its next meeting by the Secretary, the Acting Secretary or Staff Planner of the Planning Commission for approval, disapproval, or approval subject to modification.
3. The preliminary plat, which shall meet the minimum standards of design as set forth in Article III and the “Standards of Practice for Land Surveyors” Chapter 0820-3 and its subsequent amendments. In case of conflict between statutes the stricter shall apply. The plat shall also contain the general requirements for the construction of public improvements as set forth in Article III and shall give the following information insofar as possible.
  - a. The proposed subdivision’s name and location, the name(s), address(es), and phone number(s) of the owner or owners, current tract designation according to the official records in the office of the appropriate recorder and references to county tax maps and parcel numbers, and the name, address, and phone number of the designer of the plat who shall be a surveyor licensed in the State of Tennessee.
  - b. Date, approximate north arrow, and graphic scale.
  - c. The location of existing and proposed property lines, streets, water courses, railroads, sewer lines, water lines, drain pipes, bridges, culverts, and easements for existing utilities or other features. Existing features shall be distinguished from those which are proposed. In addition, the present zoning classification, if applicable, of any of the land to be subdivided and of adjoining lands, and the names of adjoining property owners or subdivisions shall be indicated.
  - d. The approximate plans of proposed sewer and water systems showing connections to the existing or any proposed utility systems:  
Including size of existing lines to be tapped, location of valves and fire hydrants on proposed system, and certification from the supplier of public water that water is available in sufficient amounts, pressure/flow, and quality to supply the proposed development. When such connections are not practicable, as determined in accordance with Section C of Article III, any proposed individual water supply and/or sewage disposal system must be approved by the Environmental Specialist

- with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC and Planning Commission Engineer.
- e. The proposed street names, and the locations and dimensions of proposed streets, alleys, easements, parks and other open spaces, reservations, lot lines, building setback lines, and utilities.
  - f. Contours at vertical intervals of not more than five (5) feet, except when specifically not required by the Planning Commission.
  - g. Subsurface conditions on the tract, as required by the Planning Commission: Location and results of tests made to ascertain subsurface soil, rock, and groundwater conditions; depth to groundwater unless test pits are dry at a depth of five (5) feet; and location and results of soil percolation data, if individual sewage disposal systems are proposed.
  - h. If any portion of the land proposed for subdivision lies within a floodable area, as determined by an official TVA or Corps of Engineers Flood Study, National Flood Insurance Program, Flood Hazard Boundary Maps or has an otherwise known history of flooding, that portion shall be so indicated on both the preliminary and final plat compete with bench marks and elevations of the one-hundred year flood as required by the Planning Commission.
  - i. The acreage of the land to be subdivided.
  - j. Location map showing the relationship of the subdivision to major roads in the area.
4. Within sixty (60) days after submission of the preliminary plat to the Planning Commission for consideration, the Planning Commission shall approve or disapprove it. If a preliminary plat is disapproved, reasons for such disapproval shall be stated in writing. If approved subject to modifications, the nature of the required modifications shall be indicated.
  5. If a preliminary plat is disapproved, a new preliminary plat may be presented as though no previous preliminary plat had been submitted. If a preliminary plat is approved, or approved subject to modifications, and the subdivider desires to make substantial modifications, other than those already required by the Planning Commission, a new preliminary plat must be submitted and is subject to the same regulations and procedures as though no previous plat had been submitted, except that a certification to the effect that the previous preliminary plat has been withdrawn must be submitted.
  6. One copy of the preliminary plat will be retained in the Planning Commission files; one copy shall be returned to the subdivider with any notations at the time of approval or disapproval and the specific changes, if any, required.
  7. Failure of the Planning Commission to act on the preliminary plat within sixty (60) days after being presented at a Planning Commission meeting in accordance with Subsection B.4 of this Article will be deemed approval of this plat.
  8. The approval of the preliminary plat by the Planning Commission shall not constitute acceptance of the final plat; and such approval shall not be indicated on the preliminary plat. A motion of the action of the Planning Commission will be entered into the Minutes of the meeting.
  9. The approval of the preliminary plat shall lapse unless a final plat based thereon is submitted within three (3) years from the date of such approval. Upon expiration, the developer may resubmit the plat, provided it complies with the Subdivision Regulations in effect at that time. **[Amended 2015]**
  10. If the subdivision is to be developed and submitted as final plats in portions or sections of the preliminary plat, the sections must be identified by alpha and/or numeric characters, following the name of the subdivision as initially submitted or as approved on preliminary.

11. No subdivision shall use the name of an existing subdivision except as noted in Article II, Subsection B.10.

C. Final Plat Requirements

1. The final plat shall conform to “Standards of Practice for Land Surveyors”, its applicable sections and subsequent amendments.
2. The final plat shall conform substantially to any preliminary plat as approved; and, if desired by the subdivider, it may constitute only that portion of the approved preliminary plat which the developer proposes to record and develop at the time; provided, however, that such portion conforms to all requirements of these regulations.
3. If the final plat submitted is a section of the preliminary plat, the final plat shall be titled the same as the preliminary plat followed by an alpha and/or numeric section designation.
4. Subsection C.1 of Article II shall not apply when a final plat is submitted in accordance with Subsection A.3 of Article II.
5. At least eight (8) calendar days prior to the meeting at which it is to be considered the subdivider shall submit one (1) digital copy (as a pdf) and one (1) printed copy to the Planning Commission of the final plat plus one (1) copy to each utility serving the area, and one (1) copy to the Planning Commission Engineer and one (1) copy to the Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC. At this time all street profiles or other plans that may have been required shall be submitted to the Planning Commission. [Amended 2015]
6. The final plat shall be presented to the Planning Commission at its next meeting by the Secretary or Staff Planner of the Planning Commission for consideration for approval or disapproval.
7. The final plat shall be drawn to a scale of one inch equals one-hundred (100) feet on sheets twenty-four (24) by thirty-six (36) inches. When more than one sheet is required, an index sheet of the same size drawn at an easily read scale shall be filed showing the entire subdivision with the sheets lettered in alphabetical order as a key. A scale other than one (1) inch equals one-hundred (100) feet may be allowed by the Planning Commission for subdivisions over 100 acres.
8. When the final plat has been approved by the Planning Commission, one copy shall be returned to the subdivider, with the approval of the Planning Commission certified thereon, for filing with the county Register of Deeds as the official plat of record. The original tracing containing all required certifications shall be returned to the subdivider for his records and the other copy shall be retained in the records of the Planning Commission.
9. The Planning Commission shall approve or disapprove the final plat within sixty (60) days after its submission for consideration. Failure of the Planning Commission to act on the final plat within these sixty (60) days shall be deemed approval of it. If the plat is disapproved, the grounds for disapproval shall be stated upon the records of the Planning Commission.
10. Approval of the final plat by the Planning Commission shall not constitute the acceptance by the public of the dedication of any streets or other public facilities, public way or ground. Streets or roads shall be accepted into the public system by the following method. When all improvements have been completed to county specifications and all bonds released as noted by a final inspection report from the Planning Commission Engineer, the Planning Commission shall by motion duly enter in its Minutes recommend to the Putnam County Commission that the streets or roads be accepted into the system. Upon execution of the required twelve (12) month warranty contract, this recommendation shall then be forwarded in writing to the Putnam County Road Supervisor, the Chairman of the Road

Committee of the Board of Commissioners for Putnam County and the Chairman of the Planning Committee of the Board of Commissioners for Putnam County for their consideration and recommendation to the Board of Commissioners to Putnam County for or against acceptance as a county road.

11. Approval of the final plat is subject to the completion of required improvements. These improvements are to be installed in accordance with Article III. The required improvements that must be in place before unqualified final approval are:

- a. Monuments (lot and block)
- b. Storm drainage
- c. Street paving
- d. Curbs (if required)
- e. Sidewalks (if required)
- f. Driveway cuts (for houses to be built immediately by the developer)
- g. Water supply system
- h. Sewer system
- i. Any other improvements required by the Planning Commission for the benefit of residents or for the conformance with overall development plans.

12. Guarantee in Lieu of Completed Improvements [Amended 2023]

No final subdivision plat shall be approved by the Planning Commission or accepted for record by the county Register of Deeds until the improvements listed shall be constructed in a satisfactory manner and approved by the local approving agent, or in lieu of such prior construction, the Planning Commission may accept a security instrument in an amount equal to the estimated cost of installation of the required improvements, whereby improvements may be made and utilities installed without cost to the county in the event of default of the subdivider. In determining the adequacy of instruments, the Planning Commission may seek the advice of other government officials and/or qualified consultants prior to acceptance of same. Roads shall be completed through subgrade and have at least 4 inches of base stone applied prior to security acceptance. Utilities including water lines and hydrants should be installed.

NOTE: Generally, types of bonding procedures accepted by the Planning Commission are:

- a. Irrevocable Letter of Credit from an approved/local bank as specified by the planning commission. Local bank means the Letter of Credit must be redeemable at a branch located within 60 miles of the Putnam County Courthouse in Cookeville, TN.

13. The final plat shall show:
- a. The lines of all streets and roads; the size and location of any water and sewer mains; the size and location of all existing and/or proposed drainage infrastructure; alley lines; lot lines; building setback lines, any easements for rights-of-way provided for public services, utilities, and the disposal of surface water; the limitation and/or dimensions of all easements; lots numbered in numerical order; any areas to be dedicated to public use, and any sites for other than residential use, with notes stating their purpose and limitations.
  - b. Sufficient data to determine readily and reproduce on the ground the location, bearing, and length of every street line, lot line, boundary line, block line, and building line whether curved or straight, and including true north point. This shall include the radius, central angle, and tangent distance for the center line of curved streets and curved property lines that are not the boundary of curved streets. In addition to the above curve data, chord bearings and distances shall be shown. The surveyor shall certify that the order of accuracy of the boundary survey shall meet or exceed one foot (1') in five-thousand feet (5000').
  - c. All dimensions to the nearest one-hundredth (100<sup>th</sup>) of a foot and angles to the nearest minute.
  - d. Location and description of monuments.
  - e. The names and locations of adjoining subdivisions and streets and the location and ownership of adjoining unsubdivided property.
  - f. Date, title, name and location of subdivision, graphic scale, true north point, block and lot numbers.
  - g. Location map showing the relationship of the subdivision to major roads in the area.
  - h. Special Notation on Final Plat: In accordance with **Tennessee Code Annotated 13-3-412** passed by Tennessee legislature in 2004, any new subdivision development within 1000 feet of an established sport shooting range in Putnam County or in a surrounding county, shall have the following Notation (as prescribed in 13-3-412) on the Final Plat: "Super Shooting Range Area: This property is located in the vicinity of an established sport shooting range. It can be anticipated that customary uses and activities at this shooting range will be conducted now and in the future. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience that may result from these uses and activities." [Added 2009]
14. The following certificates shall be presented on the final plat, except plats subject to 15 below:
- a. Certification showing that applicant is the land owner and dedicates streets, rights-of-way, and any sites for public use (Form 1-Appendix B).
  - b. Certification by surveyor licensed in the State of Tennessee to accuracy of survey and plat and placement of monuments (Form 2-Appendix B).
  - c. Certification by duly authorized agent that utility systems, private or otherwise, have been installed or are proposed for installation in accordance with government requirements (Form 3-Appendix B).
  - d. Certification by Planning Commission Engineer or other duly authorized agent (Form 4-Appendix B) that the subdivider has complied with one of the following alternatives:

- (1) Installed all improvements in accordance with the requirements of the regulations, or
  - (2) Posted a security bond in sufficient amount to assure such completion of all required improvements.
- e. Certification of the Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with Tennessee Department of Environment and Conservation when individual sewage disposal or water systems are to be installed.
- f. Easement and right-of-way restrictions (Appendix C).
- g. Certification of Approval for Recording. **[Added 2015]**

**[Amended/added 2015]**

- 15. For instances where a lot containing a house is being subdivided off of a larger tract, where the remainder is greater than five (5) acres, due to all impacts on existing infrastructure having been made by the construction of a residence; or for plats moving or changing a lot line between previously approved lots or existing lots of record, only the following certificates shall be presented on the final plat:
  - a. Certification showing that applicant is the land owner and dedicates streets, rights-of-way, and any sites for public use (Form 1-Appendix B).
  - b. Certification by surveyor licensed in the State of Tennessee to accuracy of survey and plat and placement of monuments (Form 2-Appendix B).
  - c. Certification of Approval for Recording.

### ARTICLE III DESIGN & SPECIFICATIONS

In considering applications for subdivision of land, the Planning Commission shall be guided by the standards set forth hereinafter. The said standards shall be considered to be minimum requirements and shall be waived by the Commission only under circumstances set forth in this Article and Article IV.

#### A. General

##### 1. Character of Land

Land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health or peril from fire, flood or other menace. All areas to be developed as building sites must have slopes of 15% or less, or shall conform to the criteria for Hillside Development in Article IV.

##### 2. Conformity to Official Road Plan

Subdivisions shall conform to the Official Road Plan of the county and shall be in harmony with the Land Use and Transportation Plan, if such exists.

##### 3. Specifications for Required Improvements

All required improvements shall be constructed or installed to conform to the adopted specifications, which may be found in this Article.

##### 4. Land Unsuitably Located for Subdivision

The Planning Commission may not approve what it considers to be scattered or premature subdivision of land which may endanger the health, safety, or property because of lack of or adverse effect on water supply, schools, proper drainage, good transportation (including roads), or other public services or which would necessitate an excessive expenditure of public funds for the supply or maintenance of such services. [Added 2009]

#### B. Streets

##### 1. Layout

###### a. Width, Location and Construction

Streets shall be of sufficient width, suitably located, and adequately constructed to conform with the Master Plan and to accommodate the prospective traffic and afford access for fire fighting, snow removal and road maintenance equipment. The arrangement of streets shall be such as to cause no undue hardship to adjoining properties and shall be coordinated so as to compose a convenient system. Easements shall be widened as required to provide for cut and fill sections in steep terrain.

###### b. Arrangement

The arrangement of streets in the subdivision shall provide for the continuation of principal streets of adjoining subdivisions, and for proper projection of principal



streets into adjoining properties which are not yet subdivided, in order to make possible necessary fire protection, movement of traffic and the construction or extension, presently or when later required, of needed utilities and public services such as sewers, water and drainage facilities. (Where, in the opinion of the Planning Commission, topographic or other conditions make such continuance undesirable or impracticable, the above conditions may be modified). The curvilinear street layout will be encouraged by the Planning Commission.

c. Local Streets

Local streets shall be so laid out that their use by through traffic will be discouraged.

d. Special Treatment Along Major Arterial Streets

When a subdivision abuts or contains an existing or proposed major arterial street, the Commission will require either marginal access streets, reverse frontage with screen planting contained in a non-access reservation along the rear property line, keep lots with rear service alleys, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

e. Large Tracts or Parcels

When land is subdivided into larger parcels than ordinary building lots, such parcels shall be arranged so as to allow for the opening of streets in the future and for logical further resubdivision.

f. Dead-end Streets

The creation of dead-end or loop residential streets will be encouraged wherever the Commission finds that such type of development will not interfere with normal traffic circulation in the area. In the case of dead-end streets, where needed or desirable, the Commission may require the reservation of a 20-foot wide easement to provide for continuation of pedestrian traffic and utilities to the next streets. Subdivisions containing twenty (20) lots or more shall have at least two street connections with existing public streets, or streets shown on the Official Map, if such exists, or streets on an approved subdivision plat for which a bond has been filed.

g. Block Size

Blocks shall not be less than 400 feet nor more than 1200 feet in length. No block width shall be less than twice the normal lot depth except where fronting on major streets or prevented by topographical features. In blocks exceeding 800 feet in length, the Planning Commission may require the reservation of a 20-foot wide easement through the block to provide for the crossing of underground utilities and pedestrian traffic where needed or desirable and may further specify, at its discretion, that a 4-foot wide paved foot path be included.

h. Intersections

Minor or secondary street openings shall be at least 500 feet apart when intersecting with a collector road, and at least 1000 feet apart when intersecting with an arterial road.

No street intersection shall have more than four streets entering it, and the “T” or three-way intersection shall be used whenever possible. Additional street right-of-way on local streets may be required at intersections with collector or arterial streets to permit proper intersection design for traffic flow.

i. Street Jogs

Street jogs with center line offsets of less than 150 feet shall be avoided.  
**(See Illustration 1 in Appendix A).**

j. Angle at Intersection

All streets shall join each other so that for a distance of at least 100 feet the street is approximately at right angles to the street it joins, and no intersection shall be at an angle of less than sixty (60) degrees.  
**(See Illustration 2 in Appendix A).**

k. Relation to Topography

The street plan of a proposed subdivision shall bear a logical relationship to the topography of the property, and all streets shall be arranged so as to obtain as many of the building sites as possible at or above the grade of the streets. Grades of streets shall conform as closely as practicable to the original topography.

l. Other Required Streets

Where a subdivision borders on or contains a railroad right-of-way or limited access highway right-of-way, the Planning Commission may require a street approximately parallel to and on each side of such right-of-way, at a distance suitable for the appropriate use of the intervening land (as for park purposes in residential districts, or for commercial or industrial purposes in appropriate districts). Such distances shall also be determined with due regard for the requirements of approach grades and future grade separations.

m. Tangents

A tangent of at least 100 feet shall be introduced between reverse curves on arterial and collector streets.

## 2. Design

### a. Width of Rights-of-Way

The minimum width or right-of-way, measured from lot line to lot line, shall be as shown on the Official Thoroughfare Plan, or if not shown on such plan, shall be not less than as follows:

- (1) Arterial Streets-----80 to 200 feet, as may be required by Planning Commission. Arterials are primary and secondary highways used primarily for fast or heavy traffic.
- (2) Collector Streets-----60 feet  
Collector streets carry traffic from minor streets to the arterial streets, and include the principal entrance streets of a residential development and streets for major circulation within such development.
- (3) Local Streets-----50 feet  
Minor streets are used primarily for access to abutting properties and are designed to discourage through traffic.
- (4) Marginal Access Streets-----50 feet  
Marginal access streets are minor streets parallel and adjacent to arterial streets; they provide access to abutting properties and protection from through traffic.
- (5) Permanent Dead-end Streets (cul-de-sacs)-----50 feet  
Cul-de-sacs are permanent dead-end streets or courts designed so that they cannot be extended in the future.
- (6) Temporary Dead-end Streets-----50 feet  
Temporary dead-end streets may be required when it appears that the proposed street will provide logical access to abutting property.
- (7) Alleys: In commercial or industrial districts-----30 feet  
In residential districts-----20 feet  
Alleys are minor public ways used primarily for service access to the back or side of properties otherwise on a street.
- (8) Permanent Easements—Vehicular (As amended 1991)  
A permanent easement, as established in Section 13-3-411, **Tennessee Code Annotated**, may be permitted under certain conditions. These easements shall meet the following minimum requirements and any special conditions specified by the Planning Commission, and the requirements and special conditions for the easements shall be placed on the final plat for recording.
  - (a) A permanent easement shall be of a required width of not less than fifty (50) feet. However, the Planning Commission may require greater widths if necessary to meet special conditions present on a plat.
  - (b) A permanent easement shall be improved to meet the road construction standards established in these regulations.
  - (c) Permanent easement improvements shall be maintained by the developer/owner or by a legally established homeowner's association or other similar group approved by the Planning Commission. The legal documents establishing maintenance of

the easement shall be submitted with the final plat for review and approval and shall be recorded with the final plat.

- (d) If, at any future date, a permanent easement is submitted for acceptance as a public street or road, it shall be submitted to the Planning Commission for approval, Section 13-3-406, **Tennessee Code Annotated**. In considering the easement for approval as a public street or road, the Planning Commission shall require the improvements in the easement to meet the minimum road construction standards in effect at the time the request for public acceptance is made.

In cases where topography or other physical conditions make a street of the required minimum width impracticable, the Planning Commission may modify the above requirements. The above rights-of-way may be increased when deemed necessary by the Planning Commission to accommodate cuts or fills.

b. Grades

Grades of all streets shall conform to the terrain, and shall not be more than six percent (6%) for major or collector streets. For minor streets in residential zones, the grades shall not be more than ten percent (10%) for distances in excess of three-hundred (300) feet. Grades less than three-hundred (300) feet in distance shall be no more than fifteen percent (15%). A minimum distance of one-thousand (1000) feet shall be provided between grades greater than ten percent (10%). Grades shall be no more than three percent (3%) within one-hundred (100) feet of any intersection. Other grades may be recommended by staff and approved by the Planning Commission. (**See Illustration 3 in Appendix A.**) A centerline profile showing the proposed grades shall be submitted with the Preliminary Plat. A centerline profile showing the as-built grades shall be submitted to the Planning Commission Engineer upon his request. [**Amended 2009**]

c. Changes in Grade

All changes in grade shall be connected by vertical curves constructed so as to afford a minimum sight distance of two-hundred (200) feet, said sight distance being measured from the driver's eyes or four and one-half (4 ½) feet above the pavement.

d. Curve Radii at Street Intersections

All street right-of-way lines at intersections shall be rounded by curves of at least 20 feet radius and curbs shall be adjusted accordingly. (**See Illustration 4 in Appendix A.**)

e. Steep Grades and Curves; Visibility of Intersections

A combination of steep grades and curves shall be avoided. In order to provide visibility for traffic safety, that portion of any corner lot (whether at an intersection entirely within the subdivision or of a new street with an

existing street) shall be leveled and cleared of brush (except isolated trees) and obstructions above the level three feet higher than the center line of the street. If directed, the ground shall be excavated to achieve visibility.

f. Dead-end Streets (Cul-de-Sacs)

Permanent dead-end streets shall not exceed twelve (12) single-family lots in length or 1200 ft. of roadway, whichever is less, and shall terminate in a circular turnaround (cul-de-sac) having a minimum right-of-way radius of fifty-five (55) feet with pavement base minimum radius of forty-four (44) feet and pavement minimum radius of forty (40) feet. If the circular turnaround is not completely paved, the pavement width, measured from the outside edge of the pavement, shall be thirty (30) feet and the pavement base shall extend three (3) feet inside the inner circle of the pavement. (See Illustration 5 in Appendix A) Temporary dead-end streets shall meet the requirements of the preceding paragraph, except the turnaround shall be completely paved. [Amended 2009]

g. Watercourses

Where a watercourse separates a proposed street from abutting property, provision shall be made for access to all lots by means of culverts or other structures of design approved by the staff engineer or other duly authorized agent. Where a subdivision is traversed by a watercourse, drainageway, channel or stream, there shall be provided a storm water easement or drainage right-of-way as required, and it shall in no case be less than 20 feet in width.

h. Curve Radii

Street lines within a block, deflecting from each other at any one point by more than 10 degrees, shall be connected with a curve, the radius of which for the center line of street shall not be less than 400 feet on major streets, 200 feet on collection streets and 100 feet on minor streets.

i. Service Streets or Loading Space in Commercial Development

Paved rear service streets of not less than 20 feet in width, or in lieu thereof, adequate off-street loading space, suitably surfaced, shall be provided in connections with lots designed for commercial use.

j. Free Flow of Vehicular Traffic Abutting Commercial Developments

In front of areas designed for commercial use, the street width shall be increased by such amount on each side as may be deemed necessary by the Planning Commission to assure the free flow of through traffic without interference by parked or parking vehicles, and to provide adequate and safe parking space for such commercial or business district.

**k. Existing Streets affected by Proposed Subdivision (Amended 2023, Res 2023-003A)**

The subdivision of property abutting existing streets that do not meet the minimum construction standards of these regulations or that may not be capable of effectively carrying the increase in traffic to be generated by the proposed subdivision development at total build out, shall generally be prohibited.

For any subdivision proposed on an existing county street, if in the opinion of Putnam County that the existing county street is not capable of handling the proposed development in a safe and efficient manner, the developer/subdivider may be required to submit a traffic study. As a condition of preliminary plat approval, a traffic study shall be prepared by a traffic engineer or transportation planner with demonstrated experience and expertise in Traffic Impact Analysis. Said study is to specify both on and off-site transportation improvements within the vicinity of the proposed subdivision as required to effectively and safely manage existing and proposed traffic volumes at the current level of service of the street(s). Traffic studies shall be reviewed on behalf of the County by a traffic engineering or transportation planning consultant with similar qualifications. The services of the County's traffic study reviewer are payable by the applicant.

Traffic Study Guidelines are found in Appendix G of these regulations.

For the purposes of these regulations no subdivision of property shall be approved that will not be properly serviced by an adjoining and/or proposed network of streets, lanes, and signalization appurtenances at the time of final plat approval, or at the time of the release of the surety instrument or financial guarantee.

Should improvements to the existing street be required to meet the demands of the proposed subdivision, the plat shall not be approved until such time as the required improvements have been completed.

**3. Names**

All street names shown on a preliminary plat or final plat shall be approved by the Planning Commission unless in conflict with existing designations. Streets shall have names and lot numbers or letters.

Proposed street names shall be substantially different so as not to be confused in sound or spelling with present names except that streets that join or are in alignment with streets of an abutting or neighboring property shall bear the same name. Generally, no street should change direction by more than 90 degrees without a change in street name.

**4. Street Construction and Wearing Surface**

**a. Street Construction Specifications**

Streets shall be constructed in accordance with the cross section shown as Appendix F. The staff engineer or other duly authorized agent shall be notified in writing at least two (2) days before the start of any construction.

**CROSS SECTION CLASSIFICATION OF STREETS (Amended 2002)**

	Local	Minor Collector	Major Collector	Industrial
Right-of-Way	50'	60'	60'	60'
Width of Base	26'	32'	38'	38'
Thickness of Base	6"	6"	8"	8"
Thickness of Binder			3"	3"
Width of Surfacing	20'	26'	32'	32'
Thickness of Surfacing (hot mix)	2"	2"	2"	2"

Preparation of Subgrade—Before grading is started, the areas within the limits of construction shall be cleared of all objectionable matter, such as trees, stumps, roots, weeds, heavy vegetation, etc. Topsoil shall be removed and stockpiled for later use as a topping-out material for seeding and sodding.

If rock is encountered, it shall be removed to a depth of at least twelve (12) inches below the grade of the road, and suitable backfill material will be used to build the cut section up to proposed grade.

The subgrade shall then be constructed according to Section 207 of the “Standard Specifications for Road and Bridge Construction” by the Tennessee Department of Highways (and all subsequent revisions). After grading is completed, and before any base is applied, all of the underground work—water mains, gas mains, telephone cable, and service connections from any of the above—shall be installed completely throughout the length and width of the road.

Where the subgrade is cut for the installation of underground utilities, fill shall be stone, crusher run 1 ½” and down with fines; utilities shall be properly bedded in suitable material, depending on subgrade, as required by the Planning Commission Engineer. The backfill shall be thoroughly compacted in layers not to exceed eight (8) inches in thickness, by hand, or by pneumatic tamping equipment. Backfills shall be compacted to a density not less than that of the original compacted fill. The finished subgrade shall provide for superelevation and crown of the roadway.

Subgrade shall be proof rolled with a loaded truck (20 tons minimum) provided by the developer in the presence of the Planning Commission Engineer and a representative of the Putnam County Road Committee prior to installation of pavement base. Any soft spots identified in the proof roll shall be cut out and replaced as directed by the Planning Commission Engineer.

Pavement Base—After preparation of the subgrade, the roadbed shall be surfaced with material required by local standards, but of no lower classification than crushed rock, stone or gravel. The size of the crushed rock or stone shall be that generally known as “pug mix” from one and one-half (1-1/2) inches down including dust. Base shall be Tennessee Department of Transportation 303-01 mineral aggregate, Type A Base, Grading D. At developer’s option, “clean crusher run” may be substituted for “pug mix” in the first four (4) inches if a bond is posted for the remaining road improvements and this material is to be the road surface for a minimum of six (6) months. Spreading of the stone shall be done uniformly over the area to be covered by means of appropriate spreading devices and shall not be dumped in piles. After spreading, the stone shall be rolled until thoroughly compacted.

The compacted thickness of the stone roadway shall be no less than six (6) inches. Construction shall be as specified in Section 303 “Standard Specifications for Road and Bridge Construction”, Tennessee Department of Highways (and all subsequent revisions).

#### Surface Requirements

Final construction shall be completed within two (2) years after receiving preliminary approval. Before final construction the roadway shall be inspected by the Planning Commission Engineer or other duly authorized agent to determine the amount of additional base rock which may be required.

Prime Coat—The base shall be sprinkled lightly with water to settle any loose dirt. A bituminous prime coat shall then be applied uniformly over the surface of the base by the use of an approved bituminous distributor. The prime coat shall be applied at the rate of three tenths (3/10) gallon per square yard using cut-back asphalt, grade RC-70 or RC-250, or refined tar, grade RT-2, RT-3, or emulsified asphalt grade AE-P.

Wearing Surface—Upon completion of the application of the prime coat, an asphaltic concrete surface (hot mix) shall be applied. This shall be constructed as specified in Sections 307 and 411 of the “Standard Specification for Road and Bridge Construction” using grades of asphalt concrete as approved by the Putnam County Highway Department at the time of installation.

#### Street Drainage

Street drainage shall be approved by the Planning Commission with advice of the Planning Commission Engineer or other duly authorized agent. Street drainage shall be provided by either curbs and swale openings, valley gutters, or ditches and swales properly protected from erosion by seeding or other approved methods.

#### Road Bank Seeding-Erosion Control

Areas disturbed by cut or fill along roadways shall be shaped and seeded with permanent vegetation. This work shall be accomplished in



conjunction with roadway construction in order to reduce erosion and prevent the siltation and clogging of culverts and drainageways. In areas of excessive slope, sodding of drainageways and/or concrete waterways and/or ditch checks may be required.

b. Minimum Pavement Widths and Cross Sections

Minimum pavement widths between curbs or between valley gutters shall be as follows and other details such as crown of pavement, maximum slopes and required cross sections shall conform to the requirements of the Planning Commission Engineer or other duly authorized agent.

- (1) Local Residential Street-----20 feet
- (2) Marginal Access Streets-----20 feet
- (3) Dead-End Streets (cul-de-sac)-----20 feet
- (4) Major Collector Streets-----32 feet
- (5) Minor Collector Streets-----26 feet
- (6) Arterial Street and Highways-----As may be required; not usually paved by the developer.

For definitions and functions of the various types of streets listed above, refer to Article III, Section B, Subsection 2.

5. Related Improvements

a. Sidewalks

For the safety of pedestrians and of children going to school, installations of sidewalks on one side or both sides of the street may be required on arterial streets or highways, in the vicinity of schools, and in other locations where the Planning Commission considers sidewalks to be needed.

Sidewalks shall be located in the street right-of-way not less than one foot from the property line to prevent interference or encroachment by fencing, walls, hedges or other planting or structures placed on the property line at a later date.

In residential areas, concrete sidewalks shall be four (4) feet wide and four (4) inches thick. In commercial areas, sidewalks shall be eight (8) feet wide and four (4) inches thick.

b. Monuments

Concrete monuments four (4) inches in diameter or four (4) inches square, three (3) feet long with a flat top, flush with the ground, shall be set at all street corners, at all points where the street lines intersect the exterior boundaries of the subdivision. A metal bar three-quarters (3/4) inches in diameter shall be inserted in the top of the monument to mark the property corner.

c. Lot Corner Markers

All lot corners shall be marked with iron pipe not less than three-fourths (3/4) inches in diameter and twenty-four (24) inches long and driven flush with the finish grade.

d. Installation of Driveways

After grading is completed and approved and before any base is applied, all driveways for houses to be built immediately by the developer shall be cut and drained. Culvert size and type shall be approved by the Putnam County Highway Department. All culverts shall be a minimum of 15" in diameter.

e. Bridges and Culverts

All bridges constructed as a part of the road system of any subdivision or as a result of subdivision development shall conform to the “Standard Specifications for Road and Bridge Construction, “Tennessee Department of Transportation, and shall conform to AASHTO design specifications. Plans and specifications shall be proposed by a professional engineer licensed in the State of Tennessee.

Bridges and culverts for public ways shall be a minimum of 32 feet wide, except as reviewed and approved by the Planning Commission.

f. Road Regulatory and Street Name Signs

The developer shall deposit with the Putnam County Highway Department at the time of final subdivision approval funds to cover the cost including installation of regulatory and street name signs as required. Signs shall be installed by the Highway Department upon final approval when streets are travelable.

g. Concrete Curbs

In order for concrete curbs to be installed in a subdivision, the developer must declare his intentions when the preliminary plat is submitted. Curbs shall include a concrete or asphalt drainage gutter with catch basins and underground storm drains. Curb and gutter shall be a minimum of 18” wide. If using an extruded curb, gutter shall be a minimum of 12” wide. Storm drains installed in the roadway shall be constructed of Class III reinforced concrete pipe (RCP) or HDPE/PP. [Amended January, 2016] Developers are encouraged to utilize a curb and gutter system that can be driven over by ordinary vehicles. If not, provisions should be made for neatly installed driveway curb cuts. Curb and gutter shall be installed on the stone base. The finished grade outside of the curbs shall be installed to the elevation of the top of curb. In general, ditches should not be installed behind the curbs. All water entering the road shall be directed to and enter the storm drains. In general, the installation of curb cuts for drainage is prohibited. Drainage curb cuts may be installed in special circumstances at the discretion of the planning commission. Unless agreed to by the planning commission, curbs shall not be installed on top of the asphalt surface. The required pavement width shall be maintained inside-to-inside of the gutter. The developer must obtain a drainage plan stamped by an engineer licensed in the State of Tennessee. Plans and calculations shall be submitted to the Planning Commission Engineer upon his request. Stormwater design shall be based on a 25-year storm frequency. All drainage structures shall be approved in advance by the Planning Commission Engineer.

## C. Utilities

### 1. Water Supply System

The Planning Commission Engineer or other duly authorized agent shall be notified in writing at least two (2) days before the start of any construction. Water mains properly connected with a community water supply system, or with an alternate supply approved by the Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC, Planning Commission Engineer or other duly authorized agent, shall be constructed in such a manner as to serve adequately for both domestic use and fire protection all lots shown on the subdivision plat. Calculations showing system design, function, flow and pressure shall also be submitted as requested for review by the Planning Commission Engineer and Planning Commission. Calculations showing system design, function, flow and pressure shall be submitted for review by the Planning Commission Engineer with calculations.

- a. Water mains of six (6) inch diameter minimum, having adequate residual pressure, shall be installed throughout the subdivision. For the fire protection purposes of these regulations, while any one fire hydrant is free flowing in the development, a negative residual pressure shall not exist in the water system within one (1) mile of the free flowing fire hydrant. The residual pressure shall be determined by calculations and/or flow tests. New water line installations in a subdivision shall be designed and certified by an engineer registered in the State of Tennessee. The design shall comply with the Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC regulations. A copy of these plans and calculations, showing residual pressures under both fire flow and domestic flow conditions, shall be provided to the Planning Commission Engineer prior to final approval. Where a subdivision is planned on a county road with an existing water line, the water system residual pressure requirements must be met based on a free flowing existing or proposed fire hydrant. In either case, a certification must be signed and sealed by the design engineer who shall be registered in the State of Tennessee. The certification shall be included on the final plat.

Once the water line and fire hydrants have been installed, the developer shall flow test the hydrants and paint the bonnets according to the color coding system shown below. The results of the flow tests shall be provided to the Putnam County Planning Commission and to the Planning Commission Engineer. All expenses incurred during this process are the sole responsibility of the developer.

Hydrant classification, color code and capacity in gallons per minute (GPM) with a minimum system wide residual pressure as stated in pounds per square inch (PSI) shall be as follows:

Class AA	Blue	1,500 GPM or greater (20 PSI)
Class A	Green	1,000 GPM to 1,499 GPM (20 PSI)
Class B	Orange	500 GPM to 999 GPM (20 PSI)
Class C	Red	Less than 500 GPM (20 PSI)

- b. An adequate system of fire mains shall be provided as part of the development. Every attempt shall be made to establish a gridiron layout, preferably “looped,” with a minimum of dead-end lines.

Fire hydrants shall be spaced so that building setback line of any lot is no more than 500 feet from a hydrant—measured along streets; and shall be so located that they will be accessible, protected from traffic hazards, and will not obstruct walks, roadways, or parking facilities. Fire hydrants shall be installed so that they meet the requirements of the County Fire Department—(three-way) painted to reflect flow requirements and for easy location.

The following specifications shall apply to fire hydrants installed in subdivisions:

Muller No. A-2402, M&H No. 129T, U.S. Pipe Metropolitan 250 or American MK 73; 4 ½” valve opening, two 2 ½” nozzles and 1 pumper nozzle with 1” square operating nut, open to the left, 6” mechanical joint end inlet 3 ½” three and one-half foot bury depth.

Two (2) lot subdivisions as provided for in Article IIA shall be exempted from the requirement to install a fire hydrant.

- c. Connections to the water system shall be installed for every lot in a subdivision so that future connections will not require digging up or tunneling under streets or interruption to service to other connections on the system. The water main shall be located outside of the pavement base but within the right-of-way of any road or street that it parallels. Connections may be made to lots from the water main so that one service line at the lot corner serves more than one lot. Subdivisions developed on existing roads with existing water lines shall be dealt with on an individual basis consistent with policy and current regulations. The following minimum pipe sizes shall be required for service lines:

<u>Number of Units</u>	<u>Size</u>
1	¾ inch
2	1 inch
3-5	2 inch
6-10	2 inch
Over 10	to be determined by the Planning Commission.

All service lines must be fitted with a minimum of three-fourths (3/4) inch tees and closed for the future installation of water meters.

Lines shall be PVC 200 psi or better or copper.

- d. All mains shall be either ductile iron or PVC (SOR) schedule 40 or better. All pipe shall meet Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC requirements as set forth in "Product Standards PS22-70" and subsequent revisions. All valve boxes shall be cast iron. Plans must be approved by the Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC.

## 2. Accessibility of Sewer and/or Water Supply System

When a proposed subdivision is not directly adjacent to an area served by a public sewer or water supply system, the Planning Commission shall determine the accessibility of the nearest system or systems and determine whether the subdivider must make connections. Lands without accessibility to public water supply systems or developments not capable of the provision of an adequate supply of water through an approved system of production, storage, and distribution, capable of providing adequate flow for domestic use and fire protection shall be deemed unsuitable for development as a subdivision until such time as this system can be provided.

The Planning Commission may seek the advice of other government officials, and/or qualified consultants prior to making this determination. In all cases where the subdivision is within 300 feet of an existing sewer system, connection will be made by the subdivider and a sewer system installed within the subdivision.

## 3. Sanitary Sewers and Septic Tanks

- a. Where a Planning Commission determines that a submission does not have to connect to an existing sewerage system and no new system is proposed, lots must contain adequate area for installation of approved septic tank and disposal fields and must be approved in writing by the Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC, or an authorized representative, but in no case shall they be smaller than 20,000 square feet.
- b. Sanitary sewer connections to dwellings shall not be less than four (4) inches in diameter; short laterals shall be six (6) inches; and all other lines shall be eight (8) inches and larger, depending on anticipated flow.
- c. When connection to a municipal sewer system is impractical and/or when soil or topographic conditions render lots that cannot be approved and developed with a traditional septic tank system, the developer may choose to install a specialized central sewerage collection and treatment system to serve all or some of the lots in the development. The developer and/or his/her engineer shall meet all requirements of the Tennessee Department of Environment and Conservation. The developer shall contract with a sewer system operator approved by the Tennessee Regulatory Authority. Copies of all required approvals shall be submitted to the Planning Commission. [Added 2009]

4. Above Ground

Where utilities are to be installed above ground, they shall be provided for in rear lot easements whenever practicable. These easements shall be perpetual, unobstructed, a minimum of twenty (20) feet in width centered on common lot lines and provided with satisfactory street access. Whenever possible, easements shall be cleared and graded where required.

5. Below Ground

The Planning Commission shall encourage the complete use of underground utilities wherever possible. These are to be installed in the street or alley right-of-way between the paved roadway and street line to simplify location and repair of lines. The following requirements shall apply: After grading is completed and approved, and before any pavement base is applied, all of the in-street underground work—water mains, gas mains, etc. and all service connections—shall be completely installed and approved throughout the length of the street and across the flat section. The subdivider shall install underground service connection to the property line of each lot within the subdivision for such required utilities before the street is paved.

6. Additional Easements

Additional ten (10) foot easements may be required as deemed necessary by the Planning Commission after consultation with the appropriate utility.

7. Fire Suppression Sprinkler System

If adequate water supply via a 6-inch water main and fire hydrants installed within 500 ft. of each residential lot is not available, the installation of fire suppression sprinkler systems shall be required in each residential dwelling unit (house, apartment, etc.) in accordance to the following requirements: **[Amended/added, 2018]**

- a. Minimum distance from the closest lot in a subdivision to the nearest 6-inch water main shall be recorded on the plat.
  - i. If the minimum distance from the closest lot in a 3 to 5 lot subdivision to the nearest 6-inch main exceeds 500 ft. and each lot is served by at least a 2-inch water main, fire suppression sprinkler systems shall be installed.
  - ii. If the minimum distance from the closest lot in a 6 to 20 lot subdivision to the nearest 6-inch main exceeds 2000 ft. and each lot is served by at least a 4-inch water main, fire suppression sprinkler systems shall be installed.
  - iii. For subdivisions of more than 20 lots, fire hydrants, supplied by a minimum 6 inch main, which meet minimum specifications for fire flow, are required.
- b. All fire suppression sprinkler systems SHALL be installed according to the latest edition of the NFPA 13D (Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes) which as of adoption of this resolution is the 2016 edition AND/OR the regulations established by the United States Department of Housing and Urban Development (HUD) relating to the installation of sprinkler equipment in manufactured homes.”
- c. All fire suppression sprinkler systems installed in mobile and manufactured homes shall be consistent with the regulations established by the United States

Department of Housing and Urban Development (HUD) relating to the installation of sprinkler equipment in manufactured homes.

- d. Existing residential structures shown on the plat are exempt from this sprinkler requirement. If any existing structures shown on the plat are removed or destroyed, any replacement of said structure must comply with the sprinkler requirements.
- e. Plats that are allowed to use sprinklers shall include the following plat note: Per the Putnam County Regional Planning Commission: residential lots included in this plat will be required to install residential sprinkler systems in accordance with requirements found in NFPA 13D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings or the regulations established by the United States Department of Housing and Urban Development (HUD) relating to the installation of sprinkler equipment in manufactured homes. Existing residential structures shown on the plat are exempt from this sprinkler requirement. If any existing structures shown on the plat are removed or destroyed, any replacement of said structure must comply with the sprinkler requirements.
- f. Plats utilizing sprinklers are not eligible for administrative approval.
- g. The developer shall list this requirement on each deed, and said requirement shall only be removed upon express permission of the planning commission.

D. Lots

1. Lots to be Buildable

The lot arrangement shall be such that in constructing a building there will be no foreseeable difficulties for reasons of topography or other natural conditions. Lots should not be of such depth as to encourage the later creation of second building lot at the front or rear. Lots or areas which are not buildable whether by reason of danger from flooding, topography, natural or other conditions shall be so designated on the final plat.

2. Side Lines

All side lines of lots shall be at right angles to straight street lines and radial to curved street lines, unless a variance from this rule will give a better street or lot plan.

3. Minimum Lot Size

The size, shape and orientation of lots shall be such as the Planning Commission deems appropriate for the type of development and use contemplated. Where a public sanitary sewer and/or a public water supply system are reasonably accessible, the subdivider shall connect with such system or systems and provide connections to each lot. Where such systems are not available, as determined in accordance with Section C.2 of Article III, an alternate method of sewage disposal or water supply may be used if it meets all applicable environmental regulations.

Lots within the Putnam County Planning Region are governed by the following provisions:

a. Residential Lots within the Putnam County Planning Region:

- (1) Lots served by a public water and sanitary sewer system.

Minimum area----- 7,500 sq. ft.



Minimum width at building setback line----- 75 ft.

- (2) Lots served by public water but not by public sanitary sewer system.

Minimum area----- 20,000 sq. ft.

Minimum width at building setback line----- 75 ft.

b. Nonresidential Lots

Size of lots reserved or laid out for commercial or industrial properties shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated. Platting of individual lots should be avoided in favor of an overall design of the land. This overall design shall provide insulation against adverse effects on present or future adjacent residential development.

4. Building Setback Lines and Side Yards

- a. The minimum depth of building setback lines from the abutting street right-of-way boundary shall be as follows: [Amended January, 2016]

Arterial Streets-----50 ft.

Collector Streets-----45 ft.

Local Streets-----30 ft.

Minimum setback lines from all other (non-street) lot lines shall be 10 ft.

- b. In the case of electric transmission lines where easement widths are not definitely established there shall be a minimum building setback line from the center of the transmission line as follows:

<u>Voltage of Line</u>	<u>Minimum Building Setback</u>
46 KV	37 ½ feet
69 KV	50 feet
161 KV and over	75 feet

5. Corner Lots

Corner lots shall have extra width sufficient to permit the additional side yard requirements of the building setback lines outlined above. (See Illustration 6 in Appendix A).

6. Minimum Lot Frontage [Added 2009]

- a. All lots have a minimum of fifty (50) feet of frontage on a county road, except for those lots fronting the turnaround at the terminus of permanent dead-end street (cul-de-sac), where the minimum frontage may be thirty (30) feet.
- b. Within a subdivision, occasional “flag lots” may be permitted with a minimum twenty-five (25) feet of road frontage section for the driveway-utility access strip, which shall not exceed three-hundred (300) feet in length, and a minimum one-half (1/2) acre building site at the end of the driveway-utility strip. Such lots must

be restricted from further subdivision unless the driveway-utility strip is fifty (50) feet in width. Such lots cannot exceed 10% of a total development. In no case shall such lots be used to avoid constructing a street to required standards.

E. Drainage

Streets which will be subject to inundation or flooding shall not be approved. All streets must be located at elevations which will make them flood-free in order that portions of the subdivision will not be isolated by floods. Where flood conditions are anticipated, profiles and elevations of streets will be required in order to determine the advisability of permitting the proposed street layout.

1. Street Drainage

All streets shall be designed so as to provide for the discharge of surface water from the pavement and from the right-of-way by grading and drainage.

2. Removal of Spring and Surface Water

- a. The subdivider may be required by the Planning Commission to carry away by pipe or open ditch any spring or surface water that may exist either previous to, or as a result of the subdivision. Such drainage facilities shall be located in the street right-of-way where feasible, or in perpetual unobstructed easements of appropriate width.
- b. No permanent structure such as a deck, patio, garage, carport, or other building shall be erected within the limits of any easement shown on the plat.
- c. No excavation, filling, landscaping or other construction shall be permitted in any drainage easement shown on the plat if such excavation, filling, landscaping or other construction will alter or diminish the flow of water through said easement.
- d. All driveways, entrances, curb cuts or other points of ingress and egress to the lots shown on the plat shall be in accordance with the rules, regulations and policies of the Putnam County Highway Department. All culverts at driveway entrances shall have a minimum diameter of 15”.
- e. The placing of pipe within or otherwise filling of the ditches within the rights-of-way of subdivision streets is prohibited without the approval of the Putnam County Highway Department. All piping and catch basins used for these purposes shall be approved by the Highway Department and piping shall have a minimum diameter of 15”.

3. Storm Drainage

An adequate drainage system, including necessary open ditches, pipes, culverts, intersectional drains, drop inlets, bridges, etc., shall be provided for the property drainage of all surface water.

Cross drains shall be provided to accommodate all natural water flow and shall be of sufficient length to permit full width roadway and the required slopes. Pipe sizes shall be determined by the Rational Formula, or other commonly used peak flow method. The minimum pipe size shall be fifteen (15) inches in diameter. The developer must obtain a drainage plan stamped by an engineer licensed in the State of Tennessee. Plans and calculations shall be submitted to the Planning Commission Engineer upon his request. Stormwater design shall be based on a 25-year storm frequency. Cross drains shall be built on straight line and grade, and shall be laid with the spigot end pointing the direction of the flow and with the ends fitted and matched to provide tight joints and a smooth uniform

invert. They shall be placed at a sufficient depth below the roadbed to avoid dangerous pressure of impact, and in no case shall the top of the pipe be less than twelve inches below the road surface.

Pipes or culverts shall be constructed of no less than 14-gauge steel, concrete or HDPE/PP pipe in compliance with current Tennessee Department of Transportation standards and be in conformance with all other applicable specifications and policies of the Putnam County Highway Department. [Amended January, 2016]

4. Drainage Structure to Accommodate Potential Development Upstream

A culvert or other drainage facility shall, in each case, be large enough to accommodate potential runoff from its entire upstream drainage area, whether inside or outside the subdivision.

5. Responsibility for Drainage Downstream

The subdivider's engineer shall also study the effect of each subdivision on the existing downstream drainage facilities outside the area of the subdivision. Where it is anticipated that the additional runoff incident to the development of the subdivision will overload existing downstream drainage, provision shall be made for the improvement of said condition. **(See Illustration 7 in Appendix A).**

6. Land Subject to Flooding

Land subject to flooding or land deemed by the Planning Commission to be uninhabitable shall not be platted for residential occupancy, nor for such other uses as may increase danger to health, life or property, or aggravate the flood hazard, but such land within the plat shall be set aside for such uses as shall not be endangered by periodic or occasional inundation or improved in a manner satisfactory to the Planning Commission to remedy said hazardous conditions. The Planning Commission may require engineering data to establish elevations relative to land subject to flooding and elevations required to determine first floor elevations so as to indicate the 100 year flood elevation and generally shall abide by the regulations of the National Flood Insurance Program and its Flood Hazard Boundary Maps. All subdivision plat shall reference appropriate community panel numbers of the community's Flood Hazard Maps with date.

7. Erosion Reduction

The Planning Commission may require the subdivider to utilize grading techniques, subdivision design, landscaping, sedimentation basins, special vegetation cover, and other measures to reduce erosion and sedimentation during and after development. In all cases road bank stabilization shall be required.

F. Parks, Open Spaces, and Natural Features

1. Recreation Areas Shown on County Plan

Where a proposed park, playground or open space shown on the county plan is located in whole or in part in a subdivision, the commission shall require that such area or areas be shown on the plat in accordance with the requirements specified in Paragraph 3 on the next

page. Such area or areas may be dedicated to the county by the subdivider if the County Commission approves such dedication.

2. Parks and Playgrounds not Shown on County Plan

The Planning Commission may require that the plat show sites of a character, extent, and location suitable for the development of a park, playground, or other recreation purpose. The Planning Commission may require that the developer satisfactorily grade any such recreation areas shown on the plat.

3. Information to be Submitted

In the event that an area to be used for a park or playground is required to be so shown, the subdivider shall submit, prior to final approval, to the Commission three (3) prints drawn in ink showing, at a scale of not less than thirty (30) feet to the inch, such area and the following features thereof:

- a. The boundaries of the said area, giving lengths and bearings of all straight lines; radii, lengths, central angles and tangent distances of all curves.
- b. Existing features such as brooks, ponds, cluster of trees, rock outcrops, structures.
- c. Existing, and if applicable, proposed changes in grade and contours of the said area immediately adjacent.

4. Waiver of Plat Designation of Area for Parks and Playgrounds

In cases where the Planning Commission finds that due to the size, topography, or location of the subdivision, land for park, playground, or other recreation purpose cannot be properly located therein, or, in the opinion of the Commission it is not desirable, the Commission may waive the requirements that the plat show land for such purposes.

5. Private Streets and Reserve Strips

There shall be no private streets platted in any subdivision. Every lot in subdivided property shall be served from a publicly dedicated street. There shall be no reserve strips controlling access to streets except where the control of such strips is definitely placed with the county under conditions approved by the Planning Commission, or as per conditions set out in Article III, Section B-8.

6. Preservation of Natural Features

The Planning Commission may require preservation of natural features which add value to residential developments and to the community, such as large trees or groves, water courses and falls, beaches, historic spots, vistas and similar irreplaceable assets.

G. Inspection and Inspection Fees

So that inspection can be made, the developer shall notify in writing the Planning Commission Engineer or other duly authorized agent at least two (2) days before the starting of the following steps of construction:

1. Street grading, preparation of subgrade, and installation of the drainage system.

2. Installation of water mains, water stubs, gas lines, and underground electric lines (where applicable).
3. Pavement base.
4. Final paving and drainage system.

Where new roads are constructed, an inspection fee of \$750.00 plus \$0.10 (ten cents) per linear foot of roads, minimum of \$1,000.00 shall be paid to the county trustee upon preliminary approval being granted by the planning commission.

Where three or more lots are developed on an existing county road, an inspection fee of \$50.00 per lot, maximum of \$500.00 shall be paid to the county trustee upon preliminary approval being granted by the planning commission.

If subdivision is divided into phases, the inspection fee is due to each phase.

Final plat approval cannot be obtained until a receipt for these fees is presented to the Planning Commission.

Upon completion of each inspection, the Planning Commission Engineer will submit his findings in writing to the secretary or staff planner. These inspection reports will become a part of the official records of the Planning Commission.

## ARTICLE IV SPECIAL DEVELOPMENTS

### A. Hillside Development Standards

General: On-site with slopes over 15% special measures must be taken to provide safe and adequate building sites with proper access and reliable utilities.

1. All drainage and street construction shall comply with Article III.
2. All manufactured slopes adjacent to the roadway shall normally be a maximum of two horizontal to one vertical unless limited to existing topography or constructed in rock. Manufactured slopes of less than two to one may be permitted where adequate slope control measures such as a retaining wall or rip-rap embankment are utilized. The slope shall in no case exceed the natural angle of repose of the material. Cut and fill slopes shall be constructed to eliminate sharp angles of intersection with the existing terrain and shall be rounded and contoured as necessary to blend with the natural topography to the maximum possible extent.
3. Lot Areas. The minimum area shall be the minimum as prescribed by Article III, Section D-3. This is to be increased two percent for each one percent of land slope in excess of 15 percent.
4. Lot Width. The minimum width shall be the minimum lot width as prescribed by Article III, Section D-3 of this regulation; increased two percent for each one percent of land slope in excess of 15 percent.
5. For area and width requirements, the maximum total increase shall not exceed fifty (50) percent for any slope of thirty (30) percent or greater.
6. All manufactured slopes, other than those constructed in rock, shall be planted or otherwise protected from the effects of storm erosion and shall be benched or terraced as required for adequate stability.
7. The design of storm drainage facilities shall insure the acceptance and disposal of storm runoff (based on a 10-year storm frequency) without damage to the street or to adjacent properties. The use of special structures to accept design storm runoff shall be incorporated into the street design.
8. Walkways of four (4) feet minimum width may be required along, or in the proximity of, all public streets. Walkways shall be constructed of materials suitable for use in the particular area and shall be located as necessary to provide a maximum of pedestrian safety and a maximum use of the character of the hill area.
9. Driveways shall be designed to a grade and alignment that will provide the maximum of safety and in a manner which will not interfere with drainage or public use of the street and/or street area. They shall be suitably surfaced to be protected from the effects of storm erosion into the public streets.

### B. Open Space Subdivision Standards

The requirements of these regulations may be modified in the case of large scale community or neighborhood units, such as a housing project, including apartments or condominiums, trailer court or shopping center which is not subdivided into customary lots, blocks and streets, if the development is approved by the Planning Commission and if it is in conformity with the purpose and intent of these regulations. [Amended 2009]

(NOTE): The newly urbanized residential lands will consist largely of one-family private homes in residential subdivisions centered on individual lots. The Commission encourages the innovation of new ideas and concepts in land development. Under certain circumstances the Commission will

approve new design techniques in subdivision developments—designs that will provide more open space preservation within the development area.

Other common terms for open space development are “cluster development” and “Planned Unit Development”. These are ways of designing predominantly residential subdivision so as to include built-in, common space in addition to individual building lots. Some homes may still have small separate lawns and yards, but all of them, including town houses and multi-family dwellings, must have common access to expanses of open land.

1. Open Space Subdivision Standards only apply for tracts five (5) acres or more.
2. In general, all requirements and minimum standards of design required in Article III, Sections A-G will be required except Section D (lots). [Amended 2009]
3. Approval of the final plat will be subject to approval of:
  - a. Dedication of all open space land to the county for maintenance by the Parks, Recreation and Conservation Board, or;
  - b. Establishment of a mandatory non-profit Property Owner’s Association made up of the owners to maintain the common open spaces and facilities. Each owner will retain an undivided interest in the common land. This interest to be written in the deed of each individual homeowner in perpetuity.  
(NOTE): Whenever a Property Owner’s Association is proposed, the Planning Commission and the county attorney shall retain the right to review and approve the articles of incorporation and charter of said association, and to require whatever conditions deemed necessary to insure that the intent and purpose of these regulations are carried out.
  - c. A landscape and architectural drawing of the final developed site.
  - d. Satisfactory provision for solid waste and sewerage disposal, and adequate water supply and pressure for personal use and fire protection.
4. There shall be no more than a fifty percent (50%) increase in population density over the density of regulated subdivision developments.

## ARTICLE V ENFORCEMENT AND PENALTIES FOR VIOLATIONS

The enforcement of these regulations and penalties for the unapproved recordation or transfer of land are provided by state law in the authority by Public Acts of the State of Tennessee.

### A. Enforcement

1. No plat or plan of a subdivision of land into two (2) or more lots located within the area of planning jurisdiction shall be admitted to the land records of the county or received or recorded by the county register of deeds until said plat or plan has received final approval in writing by the Planning Commission as provided in Section 13-3-402, **Tennessee Code Annotated**.
2. No board, public officer, or authority shall light any street, lay or authorize the laying of water mains or sewers or the construction of other facilities or utilities in any street located within the area of planning jurisdiction, unless such street shall have been accepted, opened, or otherwise received the legal status of a public street prior to the adoption of these regulations, or unless such street corresponds in its location and lines to a street shown on a subdivision plat approved by the Planning Commission, or on a thoroughfare plan made and adopted by the Planning Commission as provided in Sections 13-3-406 and 13-3-407, **Tennessee Code Annotated**.

### B. Penalties

1. No county Register of Deeds shall receive, file, or record a plat of a subdivision within the planning region without the approval of the Planning Commission as required in Section 13-3-402, **Tennessee Code Annotated**, and any county Register of Deeds so doing shall be deemed guilty of a misdemeanor, punishable as other misdemeanors as provided by law.
2. Section 13-3-410, **Tennessee Code Annotated**, provides that whoever, being the owner or agent of the owner of any land, transfers, or sells or agrees to sell or negotiates to sell such land by reference to or exhibition of or by other use of a plat of subdivision of such land without having submitted a plat of such subdivision to the Planning Commission and obtained its approval as required before such plat be recorded in the office of the appropriate county Register of Deeds, shall be deemed guilty of a misdemeanor punishable as other misdemeanors as provided bylaw; and the description by metes and bounds in the instrument of transfer or other document used in the process of selling or transferring shall not exempt the transaction from such penalties. The county through its county attorney or other official designated by the County Commission, may enjoin such transfer or sale or agreement by action or injunction.
3. Any building or structure erected or to be erected in violation of the subdivision regulations shall be deemed an unlawful building or structure; and the building inspector or the solicitor of the municipality or other official designated by the chief legislative body and the county attorney or other official designated by the County Commission may bring action to enjoin such erection or cause it to be vacated or removed as provided in Section 13-3-411, **Tennessee Code Annotated**.



C. Variances

Variances may be granted under the following conditions:

1. Where the subdivider can show that strict adherence to these regulations would cause unnecessary hardship, due to conditions beyond the control of the subdivider, or
2. Where the Planning Commission decides that there are topographical or other conditions peculiar to the site, and a departure from these regulations will not destroy their intent. Any variance thus authorized shall be stated in writing in the Minutes of the Planning Commission with the reasoning on which the departure is justified as set forth, or
3. In granting modifications or variances, the Planning Commission must attach such other reasonable conditions as will in the judgement, justify such modification or variances and still maintain substantially the objective of the regulations.

## ARTICLE VI ADOPTION AND EFFECTIVE DATE

- A. Before adoption of these Subdivision Regulations, a Public Hearing as required by Section 13-3-403, **Tennessee Code Annotated**, was afforded any interested person or persons and was held on August 9, 1973.
- B. These rules and regulations shall be in full force and effect from and after their adoption and effective date.
- C. Amendment

Notice of Public Hearing published August 1, 2012 in the **Herald Citizen**, a newspaper of general circulation in Putnam County, Tennessee.

**Public Hearing Held:** September 4, 2012 @ 6:30 p.m.

**Adopted** as amended after Public Hearing: September 4, 2012

**Effective Date:** September 5, 2012

**Includes 2018 amendments**

Signed \_\_\_\_\_  
Chairman

Date \_\_\_\_\_

## **APPENDICES**

## APPENDIX A ILLUSTRATIONS

Illustration 1

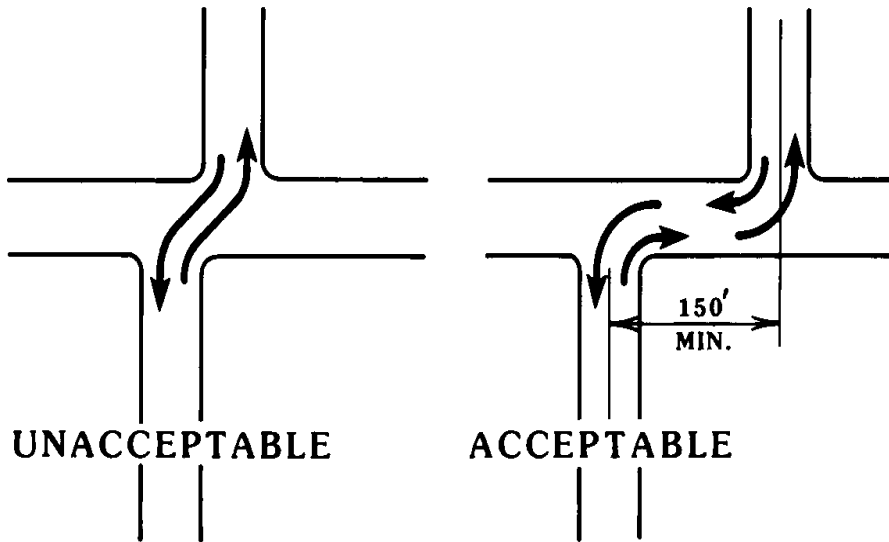


Illustration 2

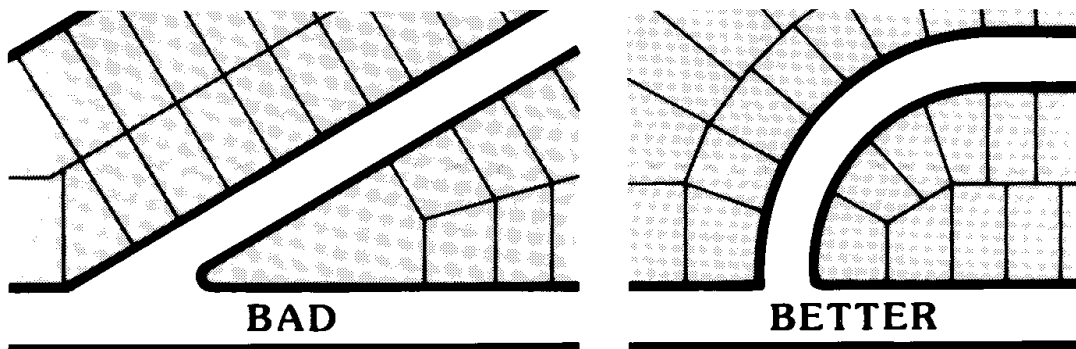
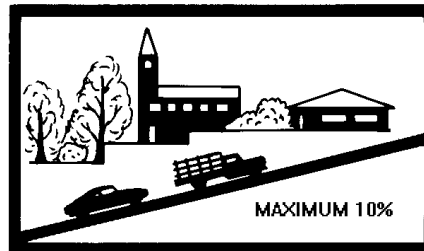


Illustration 3

**EXCESSIVE GRADES  
ON ANY STREET  
CREATE TRAFFIC AND  
DRAINAGE PROBLEMS.**



**STEEP GRADES AT  
INTERSECTIONS  
REDUCE SIGHT  
DISTANCES AND  
HINDER VEHICLE  
CONTROL.**



**STEEP GRADES SHOULD  
BE FLATTENED OUT  
WITHIN 100 FEET OF  
INTERSECTIONS.**

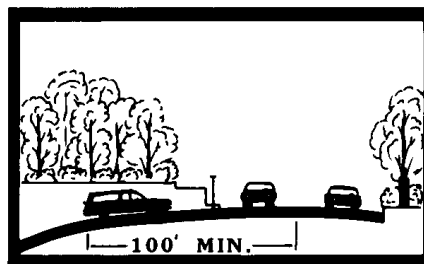


Illustration 4

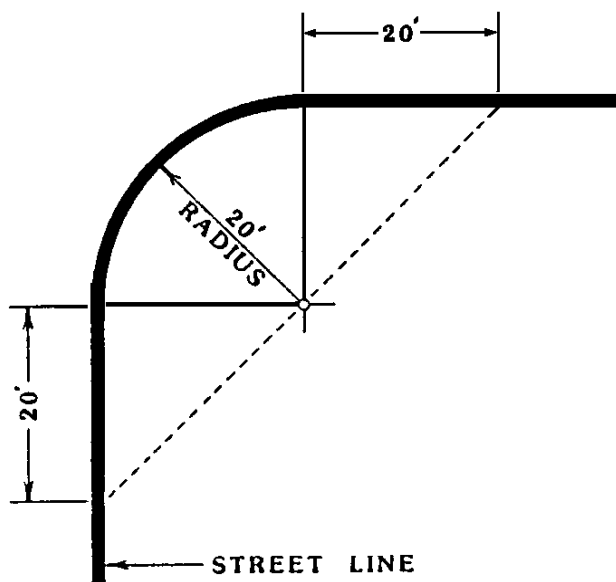


Illustration 5

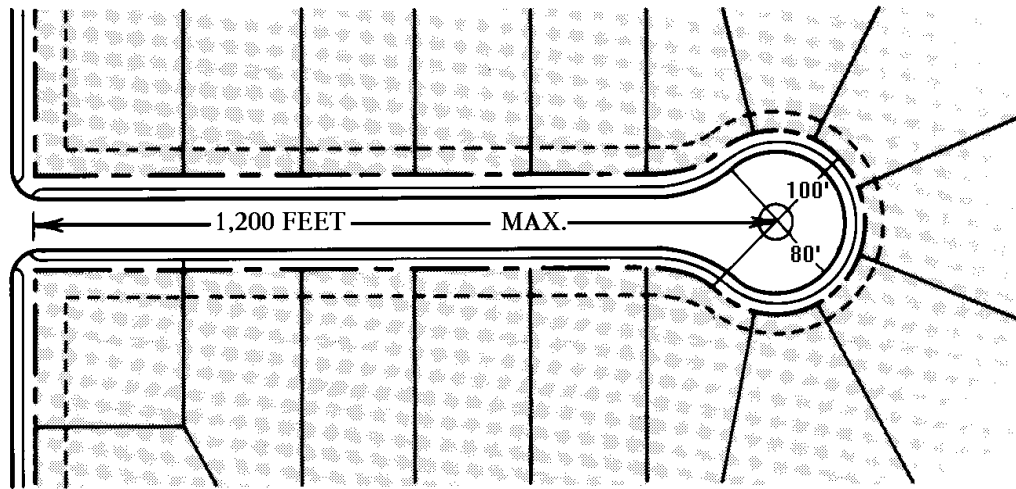


Illustration 6

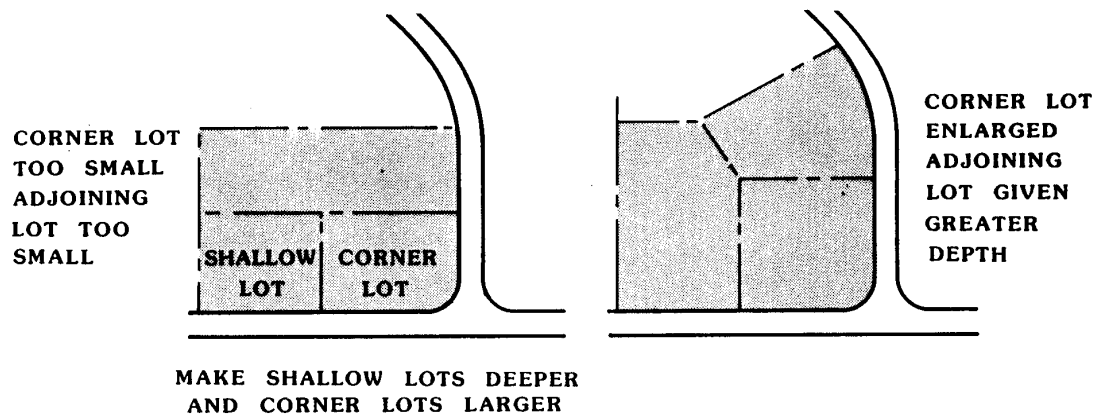


Illustration 7

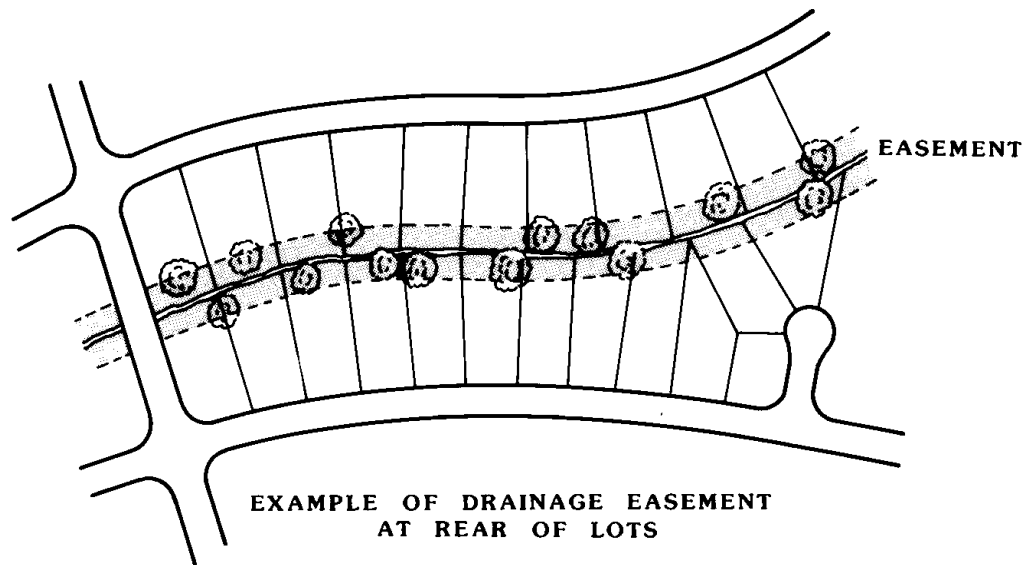


Illustration 8

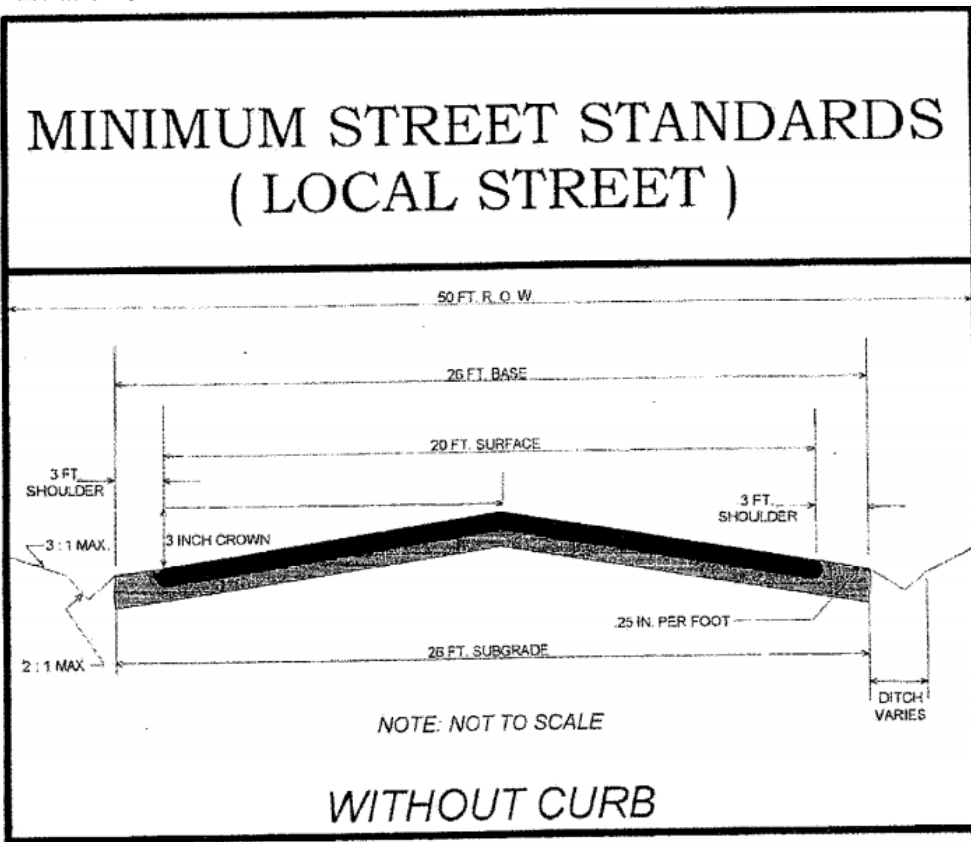


Illustration 9

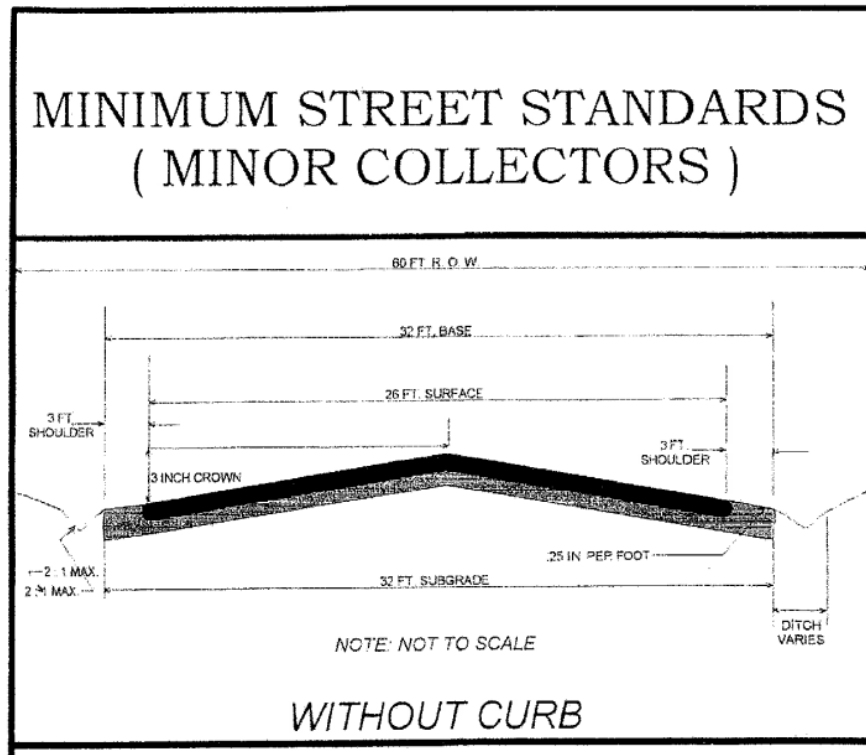
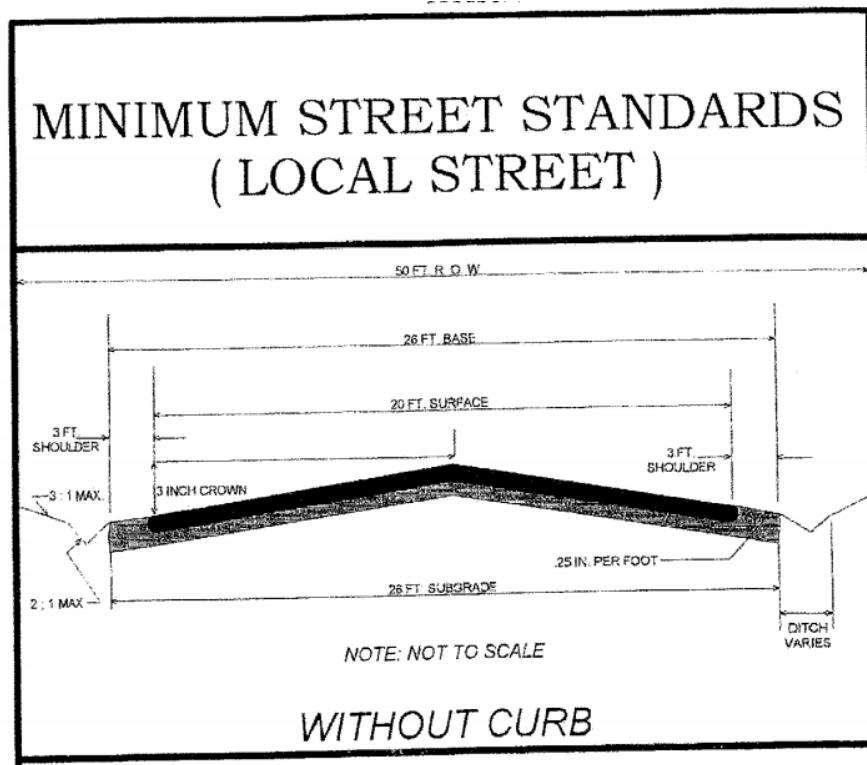
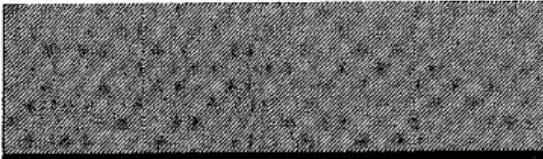


Illustration 10





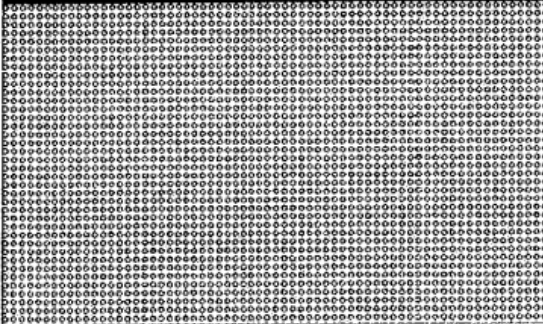
# MINIMUM THICKNESS ( MAJOR COLLECTORS )



2 IN. SURFACE  
T. D. O. T. 411, GRADING PER  
PUTNAM COUNTY  
HIGHWAY DEPARTMENT



3 IN. BINDER  
COURSE T.D.O.T. 307, GRADING PER  
PUTNAM COUNTY  
HIGHWAY DEPARTMENT



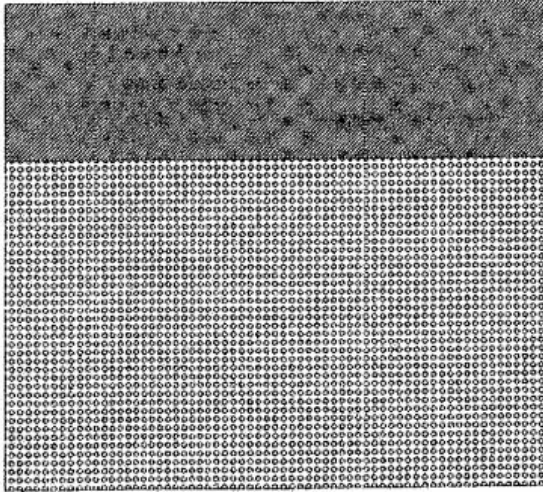
8 IN. BASE T.D.O.T. 303-01  
MINERAL AGGREGATE  
TYPE A BASE, GRADING D

## NOTE:

1. MATERIALS AND CONSTRUCTION MUST CONFORM TO T.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

NOTE: NOT TO SCALE

# MINIMUM THICKNESS ( LOCAL STREET & MINOR COLLECTORS )



2 IN. SURFACE  
T. D. O. T. 411, GRADING PER  
PUTNAM COUNTY  
HIGHWAY DEPARTMENT

6 IN. BASE T.D.O.T. 303-01  
MINERAL AGGREGATE  
TYPE A BASE, GRADING D

## NOTE:

1. MATERIALS AND CONSTRUCTION MUST CONFORM TO T.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

NOTE: NOT TO SCALE

# APPENDIX B

## FORMS FOR FINAL PLAT CERTIFICATIONS

### FORM

#### **1 CERTIFICATE OF OWNERSHIP AND DEDICATION**

I (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and dedicate all streets, alleys, walks, parks and other open spaces to public or private use as noted. Furthermore, I (we) hereby certify that the subdivision plat shown hereon is not prohibited under any current deed restrictions or covenants on the property.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Owner

#### **2 CERTIFICATE OF ACCURACY**

I hereby certify that the plan shown and described hereon is a true and correct survey to the accuracy required by the Putnam County Regional Planning Commission and that the monuments have been placed as shown herein, to the specifications of the Putnam County Regional Planning Commission.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Licensed Surveyor

#### **3 CERTIFICATION OF GENERAL APPROVAL FOR INSTALLATION OF SUBSURFACE SEWAGE DISPOSAL SYSTEMS WITH RESTRICTIONS**

General approval is hereby granted for lots proposed hereon as being suitable for subsurface sewage disposal with the listed and/or attached restrictions. Before the initiation of construction, the location of the house or other structures and plans for the subsurface sewage disposal system shall be approved by the Environmental Specialist with the Division of Ground Water Protection, Tennessee Department of Environment and Conservation or other designated representative with TDEC.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Environmental Specialist, Div.  
of Ground Water Protection/TN Dept.  
Environment and Conservation

**4 CERTIFICATION OF THE APPROVAL OF STREETS AND UTILITIES**

I hereby certify: (1) that streets, utilities, and other improvements have been installed in an acceptable manner and according to the county specifications or, (2) that a security bond in the amount of \$\_\_\_\_\_ has been posted with the Planning Commission to assure completion of all required improvements in case of default.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Planning Commission Engineer

**5 CERTIFICATE FOR LOTS FRONTING COUNTY OR STATE ROAD**

I hereby certify that the subdivision as shown hereon is served by a county or state road and rights-of-way are appropriate.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Putnam County Road Supervisor

**6 CERTIFICATION OF PROPERTY ADDRESS**

I hereby certify that the subdivision as shown hereon and properties therein have been assigned addresses as per the Putnam County Street Naming and Property Numbering System, and that hereafter properties shall be addressed as shown hereon.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Director Putnam County E-911

**7 CERTIFICATE OF APPROVAL FOR RECORDING**

I hereby certify that the subdivision plat shown hereon has been found to comply with the Subdivision Standards for Putnam County, Tennessee, with the exception of such variances, if any, as are noted in the Minutes of the Planning Commission and that it has been approved for recording in the office of the county register.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Secretary/Designee, Planning Commission

**[CERTIFICATES USED WHEN APPROPRIATE]**

**8 CERTIFICATION OF PRIVATE SEWER SYSTEM [Amended 2009]**

The Sewer Provider hereby certifies that it has obtained the appropriate state and/or federal wastewater permits for the wastewater collection and treatment system to serve the building lots on this plat. The Sewer Provider also certifies that it will be responsible for the operation and maintenance of the wastewater collection and treatment system installed to serve the said lots. The Sewer Provider accepts the dedication of all easements and installation relating to wastewater collection and treatment system which are shown on this plat. The Wastewater Treatment System is located within this subdivision, and it not owned, maintained or operated by any municipality or any department of Putnam County.

Signed on this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Signature of Authorized Agent  
of Sewer Provider

\_\_\_\_\_  
Name of Sewer Providing Company  
(Please print)

**9 CERTIFICATE OF PROVISION FOR ELECTRICAL POWER**

I hereby certify that acceptable power utility easements have been provided and that electrical power will be provided by \_\_\_\_\_ (name of utility) or it has been determined by the \_\_\_\_\_ (name of utility) that due to the nature of this development, the cost to install electrical power must be borne by the development in the amount of \$ \_\_\_\_\_ prior to installation by this electric cooperative or department.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Superintendent of  
Electric Co-op. or Department

**10 CERTIFICATE FOR WATER SUPPLY**

I hereby certify that \_\_\_\_\_ calculations (new line) or flow tests (existing line) have been performed for the water lines shown hereon. I also hereby certify that upon the registration of this plan, the (City of) \_\_\_\_\_ (Utility District) will operate and maintain the water supply system installed to serve the property herein subdivided.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Water Dept.  
Superintendent or Water Utility  
District Representative

**11 WATER PRESSURE CERTIFICATION BY A PROFESSIONAL ENGINEER  
REGISTERED IN THE STATE OF TENNESSEE [Amended Feb. 2018]**

I hereby certify that I have performed: (CHECK ONE)

\_\_\_\_\_ water line calculations for the new line(s)  
\_\_\_\_\_ flow tests of the existing line(s)

Based on the results and information available to me as of the date shown below, it is my professional opinion that, while any one fire hydrant is free flowing in this development, a negative residual pressure will not exist in the water system within one mile of the free flowing fire hydrant.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Registered Engineer Tennessee # \_\_\_\_\_

## **APPENDIX C**

### **EASEMENT AND RIGHT-OF-WAY RESTRICTIONS**

1. No permanent structure such as a deck, patio, garage, carport or other building shall be erected within the limits of any easement shown on this plat.
2. No excavation, filling, landscaping or other construction shall be permitted in any drainage easement shown on this plat if such excavation, filling, landscaping or other construction will alter or diminish the flow of water through said easement.
3. All driveways, entrances, curb cuts or other points of ingress and egress to the lots shown on this plat shall be in accordance with the rules, regulations and policies of the Putnam County Highway Department. All culverts at driveway entrances shall have a minimum diameter of 15”.
4. The placing of pipe within or otherwise filling of the ditches within the rights-of-way shown on this plat is prohibited without the approval of the Putnam County Highway Department. All piping and catch basins used for these purposes shall be approved by the Highway Department and shall have a minimum diameter of 15”.

# APPENDIX D

## CHECKLIST FOR PRELIMINARY PLAT CONSIDERATION

Name of Subdivision\_\_\_\_\_

Location\_\_\_\_\_Civil District\_\_\_\_\_Zoning District\_\_\_\_\_

Owner of Record\_\_\_\_\_Address\_\_\_\_\_Phone\_\_\_\_\_

Subdivider\_\_\_\_\_Address\_\_\_\_\_Phone\_\_\_\_\_

Surveyor\_\_\_\_\_Address\_\_\_\_\_Phone\_\_\_\_\_

Date submitted for preliminary approval:\_\_\_\_\_

### CHECKLIST [Amended 2015]

\_\_\_\_Digital and printed copies of plat submitted eight (8) calendar days prior to meeting, plus one (1) copy to each utility.

\_\_\_\_Name of subdivision.

\_\_\_\_Drawn to a scale of not less than one inch equals 100 feet (unless variance granted by Planning Commission or Staff Representative).

\_\_\_\_Name and address of owner of record, subdivider and surveyor.

\_\_\_\_North point, graphic scale and date.

\_\_\_\_Vicinity map showing location and acreage of subdivision.

\_\_\_\_Boundary lines by bearing and distances.

\_\_\_\_Names of adjoining property owners and/or subdivisions.

\_\_\_\_Location of all existing physical features on land and nearby properties.

\_\_\_\_Names, locations and dimensions of proposed streets, alleys, easements, parks and reservations, lot lines, etc.

\_\_\_\_Block numbers and lot numbers.

\_\_\_\_Plans of proposed utility layouts showing connections to existing or proposed utility systems and certification that water is available in amount and quality to provide for domestic use and fire protection.

\_\_\_\_Minimum building front yard setback line.

\_\_\_\_Present zoning classification, if any, on land in subdivision and adjacent land.

\_\_\_\_Center line street profiles at suitable scales as required by Planning Commission.

\_\_\_\_Conforms to general requirements and minimum standards of design.

\_\_\_\_Percolation data have been gathered and proposed sewerage systems have been approved.

\_\_\_\_Putnam County Tax Map and Parcel Number.

Disapproved\_\_\_\_\_, 20\_\_\_\_, because of incomplete items above or other reasons as stated:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SIGNED:\_\_\_\_\_

Secretary of Planning Commission



# APPENDIX E

## CHECKLIST FOR FINAL PLAT CONSIDERATION

Name of Subdivision\_\_\_\_\_

Location\_\_\_\_\_Civil District\_\_\_\_\_Zoning District\_\_\_\_\_

Owner of Record\_\_\_\_\_Address\_\_\_\_\_Phone\_\_\_\_\_

Preliminary approval granted:\_\_\_\_\_ (Date)

Submitted for FINAL approval:\_\_\_\_\_ (Date)

### CHECKLIST [Amended 2015]

- \_\_\_\_\_ Submitted within three (3) years from date of preliminary approval.
- \_\_\_\_\_ Digital and printed copies submitted eight (8) calendar days prior to meeting. (One (1) copy to each utility.)
- \_\_\_\_\_ Name of subdivision.
- \_\_\_\_\_ Drawn to a scale of 1" equals 100' on sheets not larger than 24" by 36" (unless variance granted by Planning Commission or Staff Representative).
- \_\_\_\_\_ Name and address of owner of record, subdivider and surveyor.
- \_\_\_\_\_ North point, graphic scale and date.
- \_\_\_\_\_ Bearings of property lines and sufficient engineering data to locate all lines including radii, angles and tangent distances.
- \_\_\_\_\_ Reservations, easements or other non-residential areas.
- \_\_\_\_\_ Dimensions to the nearest 10<sup>th</sup> of a foot and angles to the nearest minute.
- \_\_\_\_\_ Lot lines, alleys, building setback lines.
- \_\_\_\_\_ Size and location of all existing and/or proposed drainage infrastructure.
- \_\_\_\_\_ Location and description of monuments.
- \_\_\_\_\_ Names, locations of adjacent properties.
- \_\_\_\_\_ Lines, names and widths of all streets and roads.
- \_\_\_\_\_ Lots numbered in numerical order and blocks lettered alphabetically.
- \_\_\_\_\_ Location sketch map with floodable areas outlined.
- \_\_\_\_\_ Certificate of ownership and dedication.
- \_\_\_\_\_ Certificate of approval of water and sewerage systems and streets.
- \_\_\_\_\_ Certificate of accuracy by a surveyor licensed in the State of Tennessee.
- \_\_\_\_\_ Certificate of approval for recording.
- \_\_\_\_\_ Proposed deed restrictions if not a zoned area.
- \_\_\_\_\_ Conforms to general requirements and minimum standards of design.
- \_\_\_\_\_ Required physical improvements have been made or posted in the amount of \$\_\_\_\_\_.
- \_\_\_\_\_ Copy of final approved plat as recorded submitted to E-911 office for property numbers assignment.
- \_\_\_\_\_ Road name signs and traffic control signs purchased at Putnam County Highway Department.
- \_\_\_\_\_ Engineer inspection fee paid to County Trustee's Office with receipt presented to Planning Commission Engineer.

# APPENDIX F

## ANSWERS TO QUESTIONS OFTEN ASKED ABOUT SUBDIVISION REGULATIONS

1. **Are Subdivision Regulations fair to everyone?**

Yes, the written regulations provide the local Planning Commission with uniform procedures, standards of design and construction by which to appraise equally and fairly all plats for land subdivision.

2. **Who is affected by the Regulations?**

Every owner of land within the planning region who divides land into smaller parcels, or changes the size or shape of existing lots.

3. **Am I affected if I resubdivide my tract into two parcels?**

Yes, “subdivision” means the division of a tract or parcel of land into two or more lots, sites, or other divisions for immediate or future sale or building development, and includes resubdivision.

4. **What’s to prevent me from recording a subdivision plat without approval?**

The County Register of Deeds is prevented by law from recording land subdivision lying within planning regions without final approval in writing.

5. **Can I sell by an unapproved plat and then record my lots by metes and bounds?**

No. State law makes it a misdemeanor, punishable by law, to use an unapproved subdivision plat even if metes and bounds description is used in the instrument of transfer or sale.

6. **What happens if I sell unapproved and unrecorded lots from my subdivision?**

- (a) A state law has been broken (Section 10, Chapter 222, Public Acts of 1951).
- (b) Some cloud would exist on the title to the lot.
- (c) Most lending agencies will not approve or guarantee loans.
- (d) State law requires that public bodies shall not extend sewers, water mains, lighting or other utilities along unauthorized roads.
- (e) Where zoning is in effect, a building permit to construct any building will be withheld.
- (f) Any building or structure erected in violation may be forced to be vacated or removed.
- (g) The legislative body of a county or municipality may stop sales by injunction or other legal action.

7. **What improvements will I need to install in my subdivision?**

Most subdivision regulations will require the developer to grade and improve streets, install monuments, and water mains in accordance with adopted specifications.

**8. Why doesn't the lot buyer, instead of the developer, pay for improvements?**

The lot buyer does—at the time he purchases his property. If lots are sold before improvements are in, the community bears the expense of providing needed improvements that should have been originally planned for and installed by the developer.

**9. Won't subdivision regulations cause expensive development and cost me a lot of money?**

Quite the contrary! Properly planned subdivisions make the most of the land with a minimum of construction and operating cost. Good design takes advantage of all capabilities of the site and results in a minimum amount of streets and utilities with a maximum number of well-arranged and easier sold lots. Good land submission affects the value of the land and the immediate return to the investor, while saving the developer money.

**10. How do I go about having a subdivision approved?**

Your local Planning Commission's printed set of regulations include the procedure for having a plat approved. The Planning Commission meets at regular intervals and your preliminary sketch is submitted in advance of the meeting at which it is to be considered. It is suggested that you consult your Planning Commission early so as to become familiar with the official plans that might affect your area.

**11. What if I wish to lay out a commercial or industrial subdivision?**

The provisions of subdivision regulations apply to all subdivision of land, including that for use of business and industry. Since space, parking and service requirements will vary greatly, it is impossible to establish standards for all types of uses. For that reason, specific requirements for lot sizes and area are set forth only for residential areas.

**12. Where can I get technical site planning assistance?**

Your Planning Commission will help by recommending several competent subdivision designers who can contribute much to the financial success of your subdivision. Although they will not prepare final plans for you, trained planners are available at the Highlands Planning Department, located at 67 S. Elm Avenue, Cookeville, TN 38501; phone 931-372-0070.

# **APPENDIX G**

## **Traffic Study Guidelines**

### **SECTION 1: GENERAL**

The objective for a traffic study shall be to maintain acceptable levels of capacity and design for travel as new development occurs within the planning jurisdiction of the Putnam County Government (hereinafter the County).

### **SECTION 2: APPLICABILITY**

These guidelines are applicable to any development in the unincorporated Putnam County for which a traffic study is required.

### **SECTION 3: LEVEL OF SERVICE STANDARDS**

It is the policy of the County that all roadways, intersections, and access points shall be designed so that traffic to and from new developments shall not reduce the current level of service of the existing street network and all improvements shall be designed to a Level of Service C or better.

### **SECTION 4: DESIGN STANDARDS**

Where posted speed limits are higher than 30 mph, the County may require a county roadway to be designed to meet a higher AASHTO design standard. For state highways, for access points to state highways, and for intersections with state highways, design standards are determined by the Tennessee Department of Transportation (TDOT).

Subdivision Standards require 10' travel lanes with 3' shoulders. Existing and projected levels of traffic determine whether travel lanes and/or shoulders will be required to be widened and to what extent. Cross section standards for state highways are determined by the TDOT.

No developer implemented roadway modifications within the right-of-way shall occur unless such modifications are approved by the Highway Superintendent, the Putnam County Highway Commission, or the TDOT, as applicable. Written notice of this approval shall be received by the Putnam Planning Department staff prior to consideration of the development proposal by the Planning Commission.

For developer funded roadway modifications, right-of-way acquisition and/or utility relocations shall be the responsibility of the developer, and at the developer's expense.

### **SECTION 5: PREPARER AND REVIEWER QUALIFICATIONS**

A traffic study shall be conducted by a traffic engineer or transportation planner with demonstrated experience and expertise in Traffic Impact Analysis. Traffic studies shall be reviewed on behalf of the County by a traffic engineering or transportation planning consultant with similar qualifications. As detailed below, the services of the County's traffic study reviewer are payable by the applicant.

## SECTION 6: TRAFFIC STUDY PROCEDURES

Prior to the commencement of a traffic study, a pre-study meeting may be scheduled between the applicant and planning staff, either by teleconference or at the offices of the Putnam Planning Department. The pre-study meeting shall include representatives of the Putnam Planning Department staff, the traffic consultant who will review the traffic study on behalf of the County, the applicant, and the applicant's traffic consultant. The purpose of the pre-study meeting will be to review pertinent aspects of the proposed development, to determine the type of traffic study to be conducted, and to finalize the roles, time frames, scope of work, and proposed methodologies for the traffic study. Traffic study methodologies will include, but not be limited to, proposed trip generation rates, adjustments for passby trips and internal trips, trip reduction strategies, and the methodologies to be used for trip distribution and assignment.

The consultant hired by the County shall prepare a cost estimate for the review of the traffic study. Upon the payment of this cost to the County, the County will authorize the applicant to proceed with the traffic study.

Upon the receipt of a traffic study report by the County, the consultant hired by the county shall initiate a sufficiency review. If it is determined that a traffic study has been submitted that is not sufficient in relation to the County's traffic study guidelines as set forth below, then the County may determine the amount of any additional costs payable to the county prior to a further review of the traffic study.

These payments shall be in addition to any other fees or costs that may be required to be paid by the applicant to the County.

In order to expedite a timely review, a traffic study shall be submitted to the County not less than two (2) weeks prior to the agenda deadline for the Planning Commission meeting at which the proposed new development is to be initially considered. A sufficiency determination will be issued to the applicant on or before the agenda deadline. If the traffic study is determined to be insufficient in relation to these traffic study guidelines, then consideration of the proposed new development may be withheld from the Planning Commission agenda.

Traffic studies for developments proposed to be located within municipal growth areas shall be submitted by the County to affected municipal or regional Planning Commissions for their review and comment, in accordance with established procedures for intergovernmental planning commission review. Prior to taking any formal action regarding these studies, the County will review pertinent comments that are received under these procedures.

If a traffic study includes recommendations for new or modified access points to state highways, significant modifications to existing state highways, or new state highway or transportation facilities, the applicant shall demonstrate that the TDOT has reviewed these recommendations and is in agreement with them.

A traffic study shall closely correspond with the site plan that is submitted for the approval of the proposed new development.

## SECTION 7: THRESHOLDS FOR COUNTY TRAFFIC STUDIES

### (A) INTRODUCTION

- (1) The applicant shall review the ITE trip generation manual (7th Edition or Newer); in order to determine:

- a.) the number of trips likely to be generated by the proposed development in the p.m. peak hour; and
  - b.) the capacity classifications and corresponding LOS C service volumes for the designated arterial and collector roadways that will provide access to the proposed development.
- (2) No traffic study or highway capacity adjustment shall be required if it is determined that the number of trips likely to be generated by a proposed new development would not add more than one percent of the LOS C service volume of any of the designated arterial and collector roadway(s) that will provide access to the proposed development.
- (3) Traffic studies shall be required as follows:
- a.) A Traffic Access Analysis (TAA) shall be prepared for developments that would potentially generate fewer than 50 p.m. peak hour trips.
  - b.) A Traffic Impact Analysis (TIA) shall be prepared for developments that would potentially generate between 50 and 400 p.m. peak hour trips.
  - c.) A Traffic Impact Study (TIS) shall be prepared for all developments that would potentially generate 400 or more p.m. peak hour trips. The county also has the option to allow or require a Traffic Impact Study to be prepared for a proposed new development that would potentially generate fewer than 400 p.m. peak hour trips.

TABLE 1: TRAFFIC STUDY THRESHOLDS

Table I: Traffic Study Thresholds shows the thresholds for the traffic study types that are described above.

Threshold in PM peak hour trips	Traffic Study Type
<50	Traffic Access Analysis (TAA)
50-400	Traffic Impact Analysis (TIA)
>400	Traffic Impact Study (TIS)
* Or for any development as the County deems necessary	TBD by County, depending on the site-specific factors and the level of development

## SECTION 8: TRAFFIC STUDY ELEMENTS

### 1) INTRODUCTION

All traffic studies shall include a general description of the proposed new development, including a vicinity map and a site map, as well as a brief narrative, to show:

- A. the location of the proposed development;
- B. the number and location(s) of proposed access point(s);
- C. whether or not the development is within a municipal growth area;
- D. the existing use of the land proposed for development;
- E. existing land uses and development trends in the area;
- F. transportation facilities that will provide access to the development, noting the official route numbers of any state highways;
- G. existing traffic levels; and

H. factors affecting future traffic.

## 2) ELEMENTS OF A TRAFFIC ACCESS ANALYSIS (TAA)

- A. When a proposed new development would potentially generate up to 50 p.m. peak hour trips, a Traffic Access Analysis shall be conducted.
- B. For a Traffic Access Analysis, the study area shall be limited to the roadway segments that provide direct access to the proposed new development.
- C. Depending on the scale and location of the proposed new development, and subject to county approval, existing available traffic counts may be utilized in lieu of new traffic counts.
- D. Trip generation forecasts, determination of the buildout year, and the determinations of background traffic, shall generally follow the relevant procedures that are to be used in preparing a Traffic Impact Study, as shown below.
- E. The Traffic Access Analysis shall address the proposed number and type of dwelling units, and/or if applicable, the land use and square footage for each proposed nonresidential use within the new development.
- F. For the a.m. and p.m. peak hours, directional assignments of inbound and outbound site generated traffic shall be determined for each proposed access point.
- G. For roadway segments within the study area, a roadway level of service analysis shall be conducted, utilizing the appropriate methodology(ies) that are documented in the latest edition of the Highway Capacity Manual (HCM). For capacity analyses of two lane roadways within the study area, the preferred methodology shall be the "Two Lane Highways" methodology documented in the HCM.
- H. For existing, background, or combined background and site generated traffic, the study shall note any roadways in the study area where levels of service may be deficient in relation to the Level of Service standards that are noted above.
- J. If there is a potential for the correction of any identified level of service deficiencies, then recommendation(s) for appropriate mitigation measures may be included in the Traffic Access Analysis Report.
- K. For Traffic Access Analyses, mitigation recommendations shall be follow the procedures described below for Traffic Impact Studies
- L. If a recommended mitigation measure involves a state highway, then the design for the recommended modification shall be subject to the review and approval of the Tennessee Department of Transportation (TDOT).
- M. The Traffic Access Analysis report shall include maps and tables that show the location of the proposed new development; traffic shed boundaries in the vicinity; trip generation by land use type; and existing, background, and combined background and site generated traffic at access points and on roadways within the study area.
- O. The Traffic Access Analysis report shall also include relevant analysis worksheets, and may also include buildout year documentation and copies of cost estimates for comparable roadway modification projects.
- P. The recommended elements for a typical Traffic Access Analysis are generally noted in Table 2: Traffic Study Elements.

## 3) ELEMENTS OF A TRAFFIC IMPACT ANALYSIS (TIA)

When a proposed new development would potentially generate between 50 and 400 p.m. peak hour trips, a Traffic Impact Analysis shall be conducted.

### A. Study Area

- 1. For proposed developments that would potentially generate between 50 and 400 p.m. peak hour trips, the study area for a Traffic Impact Analysis shall include proposed access points, the major intersections that are closest to each proposed access point, and the roadway segments that are located between each access point and the major intersections that have been identified.

2. For other proposed developments that would potentially generate between 50 and 400 p.m. peak hour trips, the study area shall include the traffic shed(s) where the proposed development would be located.

B. Study Elements

1. For proposed developments that would potentially generate between 50 and 400 p.m. peak hour trips, a Traffic Impact Analysis shall include:
2. Determination of the buildout year and background traffic estimates;
3. Trip generation forecasts;
4. A.M. and P.M. peak hour turning movement counts at proposed access points and at major intersections within the study area;
5. Distribution and assignment of site generated traffic;
6. A.M. and P.M. peak hour intersection capacity analyses - of background traffic and of background and site generated traffic - for each proposed access point and for major intersections within the study area;
7. At access points and at major intersections within the study area, the identification of
8. potential A.M. and P.M. peak hour level of service deficiencies;
9. A review of existing sight distances, roadway alignments and roadway cross sections within the study area;
10. The identification of potential intersection or roadway design deficiencies; and
11. Recommendations for the mitigation of intersection capacity deficiencies and intersection and roadway design deficiencies.

Each of the above steps shall follow a methodology that is generally consistent with the corresponding methodology shown below for Traffic Impact Studies.

C. Warrant Analyses

1. For all proposed developments that would potentially generate between 50 and 400 p.m. peak hour trips, warrant analyses shall be conducted in accordance with the procedures described below for Traffic Impact Studies.

D. Mitigation and Phasing

1. Procedures for the analysis of mitigation and phasing shall be in accordance with the applicable procedures described below for Traffic Impact Studies.
2. If any recommended modification involves a state highway, then the design for recommended modification shall be subject to the review and approval of the TDOT.

4) TRAFFIC IMPACT ANALYSIS REPORT

- A. The Traffic Impact Analysis report shall include a site plan and a location map for the proposed development, as well as tables showing trip generation by land use type.
- B. For proposed developments that would potentially generate between 50 and 400 p.m. peak hour, the Traffic Impact Analysis report shall also include:
  1. Schematic diagrams showing existing, background, site traffic distribution and assignment, and combined traffic, for all major intersections and roadways within the study area; and
  2. The results of all capacity, warrant, and design analyses.
- C. For all proposed developments that would potentially generate between 50 and 400 p.m. peak hour trips, the Traffic Impact Analysis report shall also include:
  1. Significant findings from the Traffic Impact Analysis;
  2. Recommendations with respect to mitigation, phasing, and right of way analyses; and
  3. A determination that recommended transportation modifications are consistent with relevant adopted local major thoroughfare plans or regional long range transportation plans.
- D. For any recommended modifications that involve state highways, the Traffic Impact Analysis Report shall also include documentation of coordination activities with appropriate representatives of the TDOT, as well as any findings or recommendations by TDOT officials regarding recommended roadway modifications.



- E. An appendix to the Traffic Impact Analysis report shall include relevant analysis worksheets. As determined at the pre-study meeting, the appendix may also include buildout year documentation and copies of cost estimates for comparable projects.
- F. The recommended elements for a typical Traffic Impact Analysis are generally noted in Table 2 below.

#### 5) ELEMENTS OF A TRAFFIC IMPACT STUDY (TIS)

A Traffic Impact Study shall be conducted when a proposed new development would potentially generate 400 or more p.m. peak hour trips. The County also has the option to allow or require a Traffic Impact Study to be conducted for a proposed new development that would potentially generate fewer than 400 p.m. peak hour trips.

In addition to determining whether or not sufficient traffic capacity is either available or can be provided cost effectively, a Traffic Impact Study shall also address the design of the local roadway network in relation to the scale of a proposed new development.

- A. Study Area
  - 1. The study area for a Traffic Impact Study shall be determined at the pre-study meeting. At a minimum, the study area for a Traffic Impact Study shall include all of the major intersections and arterial and collector roadways whose levels of service may change due to traffic to or from the proposed new development; as well as the major intersections and arterial and collector roadways that are located between the proposed new development and the nearest major freeway interchange; whichever is more inclusive.
- B. Existing Traffic Counts
  - 1. To determine existing traffic, hourly turning movement counts shall be conducted at each of the major intersections that have been identified within the study area at the pre-study meeting. The specific hours for turning movement traffic counts will be determined at the pre-study meeting;
  - 2. In addition, 24-hour automatic traffic counts shall be conducted at critical locations along arterial and collector roadways within the study area. The specific days and locations for automatic traffic counts will be determined at the pre-study meeting; and
  - 3. Within the study area, a Traffic Impact Study shall also document existing available TDOT traffic counts, along with any existing available municipal traffic counts.
- C. Buildout Year Determination
  - 1. Determination of the buildout year shall be based on documented market absorption rates in the area of the proposed new development.
- D. Background Traffic Estimates
  - 1. Existing traffic counts shall be converted into background traffic estimates in two steps:
    - Step 1- Growth rates applied to existing traffic counts shall be consistent with growth rates at TDOT traffic count stations located within the study area, OR growth rates shall be based on an interpolation of existing traffic counts and available traffic forecasts documented in either an existing adopted major thoroughfare plan or the current Nashville Area Metropolitan Planning Organization (NAMPO) long range transportation plan.
    - Step 2- If there are any approved developments that have not been completely built out and that would potentially add a significant amount of traffic to any intersections or roadways within the study area, traffic to and from these developments shall be included in the background traffic estimates that are to be used for a Traffic Impact Study.
  - At the pre-study meeting, specific procedures will be determined for converting existing traffic counts into background traffic estimates.
- E. Trip Generation
  - 1. Typically, trip generation forecasts shall be developed for both the a.m. peak hour and the p.m. peak hour. The specific peak hours for analysis will be reviewed at the pre-study meeting.
  - 2. Preferably, these forecasts shall be derived from the trip generation rates or equations that are documented in the latest (8th or later) edition of the ITE Trip Generation Report

The Traffic Impact Study report shall document the specific rates or equations used in the study. If alternative rates or equations are used, their use shall be reviewed at the pre-study meeting, and shall also be documented in the Traffic Impact Study report. If an alternative trip generation rate or equation is used, then the Traffic Impact Study report shall include any resulting differences in trip generation forecasts.

F. Adjustments for Passby Trips, Internally Captured Trips, and Proposed Trip Reduction Strategies

1. Subject to authorization on behalf of the County at the pre-study meeting, trip generation forecasts may be adjusted to account for:
  - a) Passby trips, i.e. trips to or from a proposed new development that may be drawn from the stream of existing or background traffic; as well as
  - b) Internally captured trips, i.e. trips that may begin and end within the boundaries of a proposed new development; and
  - c) Proposed trip reduction strategies.
2. Adjustments to reflect passby trips, internally captured trips, and/or trip reduction strategies shall be derived from methodologies published by the Institute of Transportation Engineers (ITE), or by another authority recognized by the County, e.g. a state department of transportation or Tennessee Division of Air Pollution Control.
3. If traffic study findings are based on the successful outcome of one or more operational trip reduction strategies, e.g. carsharing, then the study shall also include a management and operations plan that demonstrates the feasibility and effectiveness of the proposed operational trip reduction strategy(ies).

G. Trip Distribution and Assignment

Trips to and from a proposed new development shall be assigned to the access points, intersections, and arterial and collector roadways that are included in the study area that has been identified. These assignments shall be derived from an approved systems planning model and network (such as the model and network maintained by the Nashville Area MPO), or from observed traffic patterns within the study area. The methodology to be used for trip distribution and assignment will be addressed at the pre-study meeting.

H. Capacity Analyses

1. For a background traffic scenario and for a scenario that includes both background and site generated traffic, peak hour capacity analyses shall be conducted for access points, major intersections, and roadways. The capacity analysis methodologies used in the Traffic Impact Study shall be consistent with the methodologies documented in the latest edition of the Highway Capacity Manual (HCM). For capacity analyses of two lane roadways within the study area, the preferred methodology shall be the "Two Lane Highways" methodology documented in the HCM;
2. If it is determined at the pre-study meeting that provisions for non-highway modes of travel are likely to significantly affect the impact of the proposed development upon access points, intersections, or major roadways within the study area, then, subject to county approval at the pre-study meeting, an alternative methodology may be utilized that would provide for the determination of multimodal levels of service;
3. The capacity analyses shall address existing or proposed stacking distances in relation to the lengths of existing or proposed turn lanes;
4. Capacity analyses may reflect committed projects that would affect any of the intersections or roadways in the study area, provided that these projects are likely to be completed prior to the buildout year for the proposed new development. In determining the current status of any funding commitments, the Traffic Impact Study findings shall be based on the most current information that is publicly available; and
5. The Traffic Impact Study report shall include recommendations for any modifications that will be necessary in order to achieve or maintain acceptable levels of service within the Traffic Impact Study area.

I. Warrant Analyses

1. If any new signal installation is needed in order to provide sufficient capacity at any intersection or site access point, then a signal warrant analysis shall be conducted;
2. A left turn warrant analysis shall be conducted, following the procedures that are documented in NCHRP Report 457: Engineering Study Guide for Evaluating Intersection Improvements;
3. A survey shall determine either the presence of a paved shoulder that would be sufficient to provide a paved surface for a right turn deceleration lane at the entrance(s) to the proposed development, in accordance with relevant design standards for width, length, and taper;
4. If a left turn lane is found to be warranted or if a paved shoulder is not sufficient for the provision of a right turn lane deceleration lane at each proposed site entrance as described above then the Traffic Impact Study shall include recommendation(s) for the provision of additional left turn and/or right turn lanes;
5. Recommendations for turn lanes shall conform to Section 19:05: Roadway Capacity Modification Options of the County Zoning Ordinance; and
6. If a proposed site entrance is located on a state highway, then the design for proposed turn lanes at site entrances shall be subject to the review and approval of the Tennessee Department of Transportation (TDOT).

J. Design Analysis

1. In addition to modifications that are intended to provide sufficient capacity on roadways and at access points and intersections within the study area, additional modifications may be needed in order to provide for acceptable sight distances or to mitigate other intersection or roadway design deficiencies;
2. The design analysis shall include an assessment of sight distances on roadways and at access points and intersections, noting locations within the study area where applicable AASHTO, state, or county sight distance standards are not met under existing or background conditions;
3. A similar analysis shall be undertaken in order to identify locations within the study area where applicable alignment or cross section standards are not met. At these locations, existing alignments and roadway cross sections, including lane and shoulder widths, shall be documented in the Traffic Impact Study report. Where potential design deficiencies are identified, the Traffic Impact Study report shall include recommendations for appropriate mitigation; and
4. The design analysis may reflect ongoing or committed modifications to roadways or intersections within the study area, provided that sufficient funds have been programmed or otherwise committed for the completion of these modifications prior to the buildout year. In determining the current status of any funding commitments, the Traffic Impact Study findings shall be based on the most current information that is publicly available.

K. Right of Way Evaluation

The Traffic Impact Study shall note locations where additional rights of way may need to be acquired in order to correct any identified capacity or design deficiencies. This shall be determined through a review of existing available right of way information pertaining to state and county roadways within the study area.

L. Mitigation

1. For any capacity deficiencies, recommended new turn lanes, or existing sight distance or other design deficiencies that may be identified, the Traffic Impact Study report shall document mitigation recommendations, including a notation of whether or not additional right of way may need to be acquired in order to implement any of these recommendations;
2. If any recommended modifications are to be funded by a city, the County, the state, or another private entity, then the study shall address the status of the commitment to fund these modifications. For example, a project may be included in an adopted state budget, or it may be already underway. The study report shall also identify the share of the improvement costs that are proposed to be provided by the developer, either in-kind or

through a financial contribution. In determining the current status of any funding commitments, the Traffic Impact Study findings shall be based on the most current information that is publicly available; and

3. Cost estimates shall be consistent with recent bids for comparable projects in the county, the region, or the state. Documentation of comparable cost estimates shall be submitted in order to demonstrate this consistency. As an alternative, cost estimates may be provided for a comparable project that is included in a currently approved and valid MPO Transportation Improvement Program. Developer-implemented modifications shall be constructed in accordance with the phasing recommendations included in the approved Traffic Impact Study.

M. Phasing

If a Traffic Impact Study report notes that the implementation of a mitigation measure may not be completed at the time of the initial use and occupancy of a proposed new development, then the study report shall include an analysis and recommendation for the phasing of the proposed new development. The Traffic Impact Study report shall demonstrate that the recommended phasing will allow the county's level of service and roadway design standards to be maintained while the proposed new development is underway.

6) Traffic Impact Study Report

- A. The Traffic Impact Study report shall include a site plan and a location map for the proposed development, schematic diagrams showing existing, background, site traffic distribution and assignment, and combined traffic, for all major intersections and roadways within the study area;
- B. Trip generation forecasts shall be tabulated in the Traffic Impact Study report by land use type as well as by phase, as applicable;
- C. The results of all capacity, warrant, and design analyses shall be documented and included in the Traffic Impact Study Report. The report shall also include significant findings and recommendations with respect to right of way evaluation, mitigation, and phasing;
- D. The Traffic Impact Study report shall also note whether or not recommended transportation modifications are consistent with relevant adopted local major thoroughfare plans or regional long range transportation plans;
- E. For recommended mitigation measures that involve multimodal options or trip reduction strategies, the Traffic Impact Study report shall include a management and operations plan that demonstrates their feasibility and effectiveness;
- F. For any recommended modifications that involve state facilities, the Traffic Impact Study report shall include documentation of coordination activities with appropriate representatives of the TDOT, as well as any findings or recommendations by TDOT officials regarding these recommended modifications;
- G. The appendix to the Traffic Impact Study report shall include capacity and warrant analysis worksheets. As determined at the pre-study meeting, the appendix may also include buildout year documentation and copies of cost estimates for comparable projects; and
- H. The recommended elements for a typical Traffic Impact Study are generally noted in Table 2 below.

(G) TABLE 2: TRAFFIC STUDY ELEMENTS

Task	Traffic Access Analysis (TAA)	Traffic Impact Analysis (TIA)	Traffic Impact Study (TIS)
Pre-Study Meeting	X	X	X
Review Thresholds	X	X	

Introduction	X	X	X
Study Area Determination	X	X	X
Traffic Counts	#	X	X
Turning Movement Counts		#	X
Buildout Year Determination	X	#	X
Background Traffic Forecast	X	#	X
Trip Generation Forecast	X	#	X
Adjustments for Passby and Internal Trips		#	X
Adjustments for Trip Reduction Strategies		#	#
Forecast of Background and Site Generated Traffic	X	#	#
Trip Distribution and Assignment	X	#	X
Roadway Capacity Analysis	X	#	X
Intersection Capacity Analysis		#	X
Warrant Analysis		#	X
Design Analysis			X
Recommendations for Mitigation and Phasing	#	#	X
Report	X	X	X
Appendix		#	X
X Required      # Refer to text for additional information			